BURMA GAZETTEER

PAKOKKU DISTRICT

VOLUME A

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BY

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SETTLEMENT OFFICER, PAKÔKKU

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THE

PAKÔKKU DISTRICT.

CHAPTER I.

Physical Description.

Magwe division; Area of district; Situation of district; Boundaries; District headquarters; Administrative divisions; Natural divisions; Riverine portion; Uplands; Hilly portion; Situation of townships; Hills; Rivers; Streams; Lakes; Geology; Drainage and elevation; Climate; Rainfall; Soils; Flora; Fauna; Fish.

Pakôkku is one of the three Upper Burma districts, which, together with the Lower Burma district of Thayetmyo, make up the Magwe division. The Distr

Its area is 6,210 square miles. Area

The bulk of the district is situated in the dry zone of Upper Burma and the whole of it with the exception of one large island formed between the Irrawaddy and Chindwin rivers is situated on the right bank of those rivers, and to the west of them. The district consists of three subdivisions, which are divided into eight townships. These latter are so situated that seven of them form an irregular quadrilateral, of which the longer axis lies east and west. Its south-eastern corner owing to a bend in the Irrawaddy is missing. The eighth township, Gangaw, juts out northwards in the shape of an attenuated triangle from the west of the north side of this quadrilateral, and touches the district along its base, or southern border, where it adjoins the township of Tilin and the western part of Pauk. Situa tion.

The district is contained between parallels 20·48 and 22·50 north latitude, and meridians 93·59 and 95·24 east longitude. The most northern point only of Gangaw extends to the higher of the two latitudes given above, the bulk of the district lying south of latitude 21·53

Starting from the north-east corner of the district the north boundary leaves the Chindwin river and runs up the Yama stream due west to the village of Chaung- Boun ries.

zôngyi. At this point the stream flowing to Chaungzôngyi from north to south makes a right-angled bend to attain its final course to the Chindwin. Here the boundary leaves the stream and continuing west runs to the Pôndaung range. During this portion of its length it separates the district from the Lower Chindwin district. The boundary then runs north along the Pôndaung range for a distance of about twenty-five miles, when it again strikes westwards, following the watershed between the Kyaw and Patolôn drainage systems till it reaches the Pônnyadaung range. It then follows these hills northwards till they are joined by the Indaung range in the north cf the Gangaw township. It follows the latter hills for a few miles northwards, then descending from the hills it runs northwestwards along the small Lègyi-Winywa stream till the Myittha river is reached. It follows the course of this river for a few miles and then strikes westwards till it finally joins the western boundary of the district at the foot of the Chin Hills. From the point where it joins the Pôndaung range to its junction with the western boundary it separates the district first from the Lower and then from the Upper Chindwin districts of the Sagaing Division.

The west boundary of the district is a demarcated line running generally north and south, which divides the district from the Chin Hills and from the Pakôkku Hill Tracts.

Starting from the south-east corner the south boundary leaves the Irrawaddy about twelve miles below the town of Seikpyu and for a few miles runs westwards up the Myenu stream. Then leaving the stream it follows the watershed between the Myenu and Chit streams westwards till it reaches the Salin river, up the bed of which it runs for a few miles, and then again passes west till the Nwamadaung range is reached. It follows this range in a north-west direction for some miles and then again strikes west following the watershed between the Môn and Salin drainages till it eventually joins the Pakôkku Chin Hills boundary. Throughout its entire length it separates the Pakôkku and Minbu Districts.

Starting from the north-east corner the east boundary runs down the Chindwin river to Yezagyo, separating Pakôkku from Sagaing. It then runs along the Na-nwingaing-bauk channel, an old mouth of the Chindwin, into the Irrawaddy. From here the boundary is formed by the latter river, which divides the district from the Myingyan district of the Meiktila division.

The Town of Pakôkku, from which the district derives its name, is the district headquarters. It is situated on the Irrawaddy about six miles below the point at which that river is finally joined by the Chindwin. Head-quarters.

The eight townships of the district are grouped as follows: Pakôkku, Yezagyo and Myaing make up the headquarter subdivision. Pauk, Seikpyu and Saw form the Pauk subdivision, and Tilin and Gangaw form the Gangaw subdivision. The headquarters of each of these units is situated at the towns and villages respectively from which each is named. Administrative divisions.

Natural causes arrange the district in a number of divisions, which almost invariably run north and south. Two parallel hill ranges, the Tangyidaung and Pôndaung, situated east and west of one another, run north and south through the district and divide it into the valleys of the Chindwin and Irrawaddy on the east, the valleys of the Kyaw and Yaw in the centre and the valleys of the Salin, Yaw, Maw and Myittha on the west. This western portion is again divided into a northern and southern portion by the Yaw-Myittha watershed. Natural divisions.

Physical conformation arranges the district into a riverine or inundated portion bordering the Chindwin and Irrawaddy on the east, an area of uplands stretching from the riverine portion to the Tangyidaung hills, and a hilly portion, which includes the remainder of the district, and lies to the west of that range.

Climate divides the district by a line coinciding with the Pôndaung range into two distinct divisions, the eastern of which lies entirely within the dry zone of Upper Burma, while the western falls without that zone.

The riverine portion extends from the north of the district along the banks of the rivers forming its eastern boundary, southwards to Yenangyat, the centre of the oil industry of the district. From this point southwards for a distance of about twenty miles the right bank of the Irrawaddy is practically formed by the Tangyidaung range, and, though this part of the district borders the river from an agricultural point of view, no benefit from that fact is derived in this stretch. South of the Kyaw river the Irrawaddy right bank is formed by low-lying country which runs on southwards into the adjoining district of Minbu. This riverine portion, with the exception noted, is level and is composed of excellent soil annually improved by deposits of silt left by flood water as the floods subside. Indications are not wanting to prove The riverine portion.

that at one time it formed parts of the actual beds of the two rivers which flow past it. In it are included both islands and strips of main land. The whole of it is occupied for cultivation, and fallowing, in order to allow the soil to recover its fertility, is not necessary. Much of it is devoted to the cultivation of wet weather paddy, but the bulk of it is worked with more paying crops from October onwards, when the last of the floods have subsided. The most valuable of these are chillies and tobacco, for the excellence and quantity of the last of which the district is noted. Innumerable depressions exist, which if the floods are sufficiently high are filled with water. In these depressions "*Mayin*" (hot weather) paddy is worked. Villages are numerous and the population is denser than in other parts of the district. The people combining successful agriculture with trade are generally well off. Water for domestic purposes is even in the dry season everywhere obtainable at a few feet below the surface, while for cattle the rivers furnish an ample supply. Inundation occurs from July to October. In the latter month planting operations for the main crops commence, and from this period till harvesting is complete in May and June, this riverine tract presents a most pleasing appearance, heightened considerably during the hot weather months by contrast with the adjoining uplands, on which by the end of February all vegetation has withered.

The uplands.

The upland portion of the district consists practically of all that portion of the headquarter subdivision not contained in the riverine area, for while country of this latter nature is found in Pauk and Seikpyu, the bulk of those two townships is composed of hilly country.

Rising rapidly as one goes inland or westward from the Chindwin and Irrawaddy, the district spreads itself out into undulating country composed mainly of sand, creviced by innumerable ravines and stream beds in which water is seldom seen, till it joins the Tangyidaung range. The soil is of the poorest description, and vegetation is very scanty. A feature of this part of the district is the scarcity of water. Numerous streams or rather their sandy beds scar the uplands in every direction. None of them contain flowing water except after heavy rain. In many even subsurface water is not found. Water for drinking purposes throughout this area is obtained mainly from shallow wells scooped in the beds of those streams, in which subsurface water exists, or from the tanks which are scattered about the country. During the hot weather many of these tanks dry up.

Practically the only ones which hold water till the rains fall are those which have been deepened by the Public Works Department, or with the aid of the District Fund. In many villages from January to May water is carted in barrels, mounted on cart wheels, distances of two to five miles daily. The people of Kaing village, within ten miles of Pakôkku town, assert that their ancestors have dug wells to a depth of seventy cubits, roughly one hundred feet, in their efforts to create a local water supply, but without striking water. Cattle are watered at troughs in many villages, and are sometimes driven every second day to the river to drink.

West of the Tangyidaung range the country slopes down, in hillocks rather than hills scattered in the utmost confusion, to the valleys of the Yaw and Kyaw rivers and then travelling westwards, rises in equal confusion to the Pôndaung Hills. Beyond this range, hills, of which the most prominent is a range called the Pônnyadaung, and valleys, of which the most considerable are those of the Salin, Yaw, Maw and Myittha rivers, alternate till the district boundary at the foot of the Chin Hills is reached. The hilly portion.

The bulk of the headquarter subdivision lies to the east of the Tangyidaung range. Situation of townships.

The Yezagyo township occupies its north-eastern corner. The eastern edge of this township is situated in the riverine portion of the district and includes the Alè-gyun island. The remainder of the township consists mainly of uplands.

Myaing lies to the west of Yezagyo and is composed mainly of uplands. Its northwestern corner, cut off by a hill about ten miles long, approximates in physical features to the hilly country to the west. Stretching from the river to the Tangyidaung the Pakôkku Township is situated at the base of the other two. Towards the south it is continued in a long narrow extension, which includes all the country lying between the Irrawaddy and the Yaw after that river leaves the Pauk township. With the exception of that part of it which falls in the inundated area, it is made up of uplands.

Crossing the Tangyidaung in the north the Pauk township is entered. It occupies the north of the valley formed by the Tangyidaung and Pôndaung, while to the south of it lies Seikpyu, which however extends eastwards only to the Yaw river. Villages and cultivation in Pauk are in the main confined to the valleys of the two rivers, which water it. The north part of the township and the whole

of the southern half are covered with forests and are quite uninhabited.

Human habitation in Seikpyu is confined to the inundated corner in the south-east, and to the valleys of the Chit, Mwe, and Kin streams. The bulk of the township is unoccupied and uninhabited.

The three western townships beyond the Pôndaung, Saw, Tilin and Gangaw lie one north of the other in the order named, wedged in between that range and the Chin Hills. Villages are found only in the valleys of the rivers and streams which traverse them. With the exception of the clearings in the immediate neighbourhood of the few villages which exist, these three townships constitute one vast stretch of forest, in which large areas have been reserved by the Forest Department.

Hills. The main hill ranges of the district are the Tangyidaung, the Pôndaung and the Pônnyadaung. The Tangyidaung, a low range, rises almost from the bank of the Irrawaddy near the mouth of the Yaw river and runs due north eventually becoming merged in the Pôndaung. Its highest point is 1,992 feet near Wèdaung village in Myaing.

Further west one main range starts from the south border of the district. It is known as the Dudawdaung and runs due north at an average height of about 2,000 feet, and at its northern end attains a height of 2,656 feet. It is then continued northward as the Sinlèdaung with an average height of 2,700 feet, but reaching at one point 2,812 feet. This range is terminated by the Yaw valley. North of that river the single range turns into two parallel ranges still running due north. The eastern of these two is called the Pôndaung. Starting as its south end with heights of 2,000 feet it rapidly gets higher. Its average height throughout the district is about 3,500 feet, while at one point it attains a height of 4,364 feet. The western range known as the Pônnyadaung runs due north almost to the north end of the district at an average height of about 3,000 feet. Near the north end of the Gangaw township its highest point, the Kyeindaung, is 4,451 feet. About this point the range branches into two, the main hills continuing into the Upper Chindwin district. The eastern branch is the Indaung. In the south-west of the Saw township is the Nwamadaung, a small range of which the highest point is 3,223 feet high.

The Sinmadaung, commonly spoken of as the Shinmadaung, is a series of elongated hills about thirty miles long, running north and south between the Yezagyo and Myaing

townships. Its highest point crowned by an old pagoda is 1,713 feet high.

Rivers

The main rivers of the district are the Chindwin and the Irrawaddy, the Myittha with its tributary the Maw, the Yaw and the Salin river.

The Chindwin and the Irrawaddy flow past the eastern edge of the district making a net work of channels and enclosing with their main streams the Alègyun island, some twenty miles long with an average width of two miles. About six miles above Pakôkku town they join and flow on as one river, known as the Irrawaddy only. From November to May large portions of their sandy beds are exposed. During May they commence to rise and throughout the rains they are in flood submerging the countless sand banks and islands scattered along their beds, and inundating the adjacent mainland. In years of heavy flood inundation reaches as far inland as two miles from the main bank. The Maw rises in the Chin Hills and runs through the Tilin township northwards to Minywa in Gangaw, near which village it joins the Myittha. This river also has its source in the Chin Hills, and runs due north through the Gangaw township, receiving the waters of the Maw, the Zahaw, and the Palaw, and finally discharges into the Chindwin at Kalewa in the Upper Chindwin district.

The Yaw rises in the Pakôkku Chin Hills and drains the Saw township from west to east. In Saw it is joined on its right bank by the three large streams, the Kye, the Kyauksit and the Saw, the last two of which rise near Mount Victoria. On its left bank it is joined by the Te, the Kyi with its tributary the Hnaw and the Pindaung streams. All these, except the Pindaung, are perennial and bring down large volumes of water in the rains. Leaving the Saw township the Yaw enters Pauk where it is joined by the Kyaw, which rises in the Gangaw township and flows southwards between the Pônnyadaung and Pôndaung ranges, bursting through the latter by the Kyaw gorge near the village of Kyawtha. After the junction the Yaw sweeps round and flows southwards along the foot of the Tangyidaung range finally joining the Irrawaddy near Seikpyu. The Salin river rises in the Pakôkku Chin Hills and traverses the south of the Saw township, on leaving which it forms for a few miles the south boundary of the Seikpyu township. Then leaving the district it flows through the Minbu district to the Irrawaddy.

Of the inland rivers the Myittha is the largest and is regularly used for boat traffic. A Government launch has ascended as far as Gangaw, and this river was largely used

as a line of communication for the southern column of the Chin Lushai Force in 1889.

The other inland rivers, west of the Pôndaung, flow in somewhat narrow and very rocky beds, and none of them are navigable. The waters of most of them are used for irrigation.

reams. West of the Pôndaung many of the streams are perennial, but east of that range with the exception of the Kin stream they contain water only after heavy rain. Of the latter the most considerable are the Yama in the north of the district, the Shwe-gyaung which separates the Civil station from the town of Pakôkku, the Chit, Mwe and Kin in Seikpyu.

akes. There are no actual lakes in the district, but a few of the larger depressions found in the riverine portion assume in years of heavy flood the appearance of small lakes. The chief *ins*, as they are called, are at Ma-u and south of Pakanngè in the Yesagyo township, and at Sè-ywa near Pakôkku town.

eology. Geological survey in the district has been confined mainly to the area in the neighbourhood of the oil beds at Yenangyat on the Irrawaddy about thirty-two miles below Pakôkku town. The eastern portion of the district is covered with alluvium deposited by the Chindwin and Irrawaddy rivers: on the west of the latter river soft sandstones of upper tertiary (pliocene) age occupy a large area. They are characterised by the presence of fossil wood in large quantities, and in the valley of the Yaw-river by mammalian bones. On the right bank of the Irrawaddy opposite Pagan the miocene (Pegu) beds are brought up by an anticlinal fold, and form a long narrow ridge running north and south parallel with the river. It is here in the neighbourhood of Yenangyat, that the petroleum area is situated. Twelve oil sands have been recognised in this region, all occurring in the lower, or Prome stage, of the miocene beds.

rainage d ele- tion. East of the Tangyidaung the country is an undulating plateau sloping on the north to the Yama stream, to the east to the Chindwin, to the east and south to the Irrawaddy. The whole of it is drained directly into those two rivers by the small stream beds and nullahs which wander over its surface. The height of Bahin, a village close to the foot of the Tangyidaung hills, is 926 feet above sea level. Myaing, about the centre of the plateau, is 838 feet. The level of the Irrawaddy near Pakôkku town is about 210 feet The mean level of the plateau is between 500 and 600 feet.

Between the Pôndaung and Pônnyadaung ranges the country is drained by the Kyaw and Yaw rivers, the south-west corner of Seikpyu draining by the Mwe stream into the Salin river. The height above sea level on this stream near the point where the Public Works road crosses it is 759 feet. At Seikpyu near the mouth of the Yaw the height of the Irrawaddy bank is 195 feet.

Further west beyond the Pôndaung the Saw township is drained partly by the Salin river, but mainly by the Yaw. At Laungshe on the Salin river the height is 1,725 feet. Saw on the Saw stream is 1,219 feet. Near the junction of this stream with the Yaw river the height is 810 feet. Near Pauk within ten miles of the junction of the Kyaw with the Yaw the height is 542 feet.

The Tilin township drains almost entirely into the Maw. The greater portion of Gangaw is drained by the Myittha. At Tilin the bank of the Maw is 1,022 feet above sea level: near the junction of that river with the Myittha the height is 808 feet, while the height of the Court House at Gangaw, situated about fifty feet above the Myittha bank, is 703 feet.

East of the Pôndaung the district, and particularly the upland portion of it, is as hot and dry as any part of the dry zone. From the middle of March till the end of May the heat is very great. No systematic records of temperature are available. A temperature of 118° F. has been registered in the Court House at Pakôkku, and this is regarded as consituting a record. Something approaching this was experienced in the year 1906. Temperatures of 112° and 115° F. are not uncommon during the hot weather months in the European houses in the civil station. Towards the end of April light showers fall and the rains usually set in towards the end of May. During the rains the heat is not unbearable and is considerably tempered by the strong south winds which blow up the Irrawaddy. Long breaks in the rains however occur during which the temperature again becomes oppressive. Throughout the hot weather the nights if passed in the open are cool and even at times chilly. By November the cold weather has set in and lasts till the end of January. During the three cold weather months the mornings and evenings are crisp and fresh and the nights cold. Clima

West of the Pôndaung, owing to the hilly nature of the country and the thick forest growth which prevails, the heat is not so great as to the east of that range. Both the rainy season and the cold weather are of longer duration, and the temperature during the night in the cold weather falls a good deal lower than in the uplands. Dense mists hang over

the valleys during the winter season till 9 and 10 A.M. and somewhat mar the pleasantness of this season in the three western townships of the district.

infall. The rainfall of the district increases both in quantity and regularity as one travels from east to west. In the uplands it is scanty and capricious. At Pakôkku and Seikpyu on the Irrawaddy the yearly average is 24·01 and 24·80 inches respectively. The former figure represents the mean of the last nineteen and the latter figure the mean of the last ten years. At Myaing, twenty-seven miles north-west of Pakôkku town, the average for the last ten years is 31·34 inches.

The following table gives an idea of how the rainfall in the uplands and riverine area can vary:—

Recording station.	Highest yearly total recorded.		Lowest yearly total recorded.	
	Year.	Inches.	Year.	Inches.
Pakôkku ...	1908	39·24	1891	14·82
Myaing ...	1909	40·01	1903	22·65
Seikpyu ...	1909	35·91	1903	14·53

August and September are the months in which most rain falls. At Pakôkku in 1893, a year in which the total rainfall was 38·13 inches, no less than 14·16 inches fell in the month of October, while in 1908 in August 10·14 inches fell and in November 8·92 inches.

West of the Tangyidaung at Pauk the yearly average for the last ten years is 35·04. Variations here range from 40·75 inches in 1909 to 23·70 inches in 1902. Further west again beyond the Pôndaung the average for ten years at Gangaw is 46·89 inches varying between 60·93 inches in 1905 and 41·20 inches in 1903. At Pasôk and Saw the average for the last ten years is 51·67 inches, varying between 81·91 inches in 1909 and 36·95 in 1902.

s. The soil of the inundated eastern edge of the district, being composed mainly of silt deposited by the floods of the Chindwin and Irrawaddy, is extremely fertile, and on the mainland this fertility is increased by each annual flood. The soil of the countless islands in the channels of these two rivers is

constantly varying between excellent silt and pure sand. Islands form and disappear yearly and last for varying periods. Their appearance and disappearance is due entirely to the action of the rivers when in flood.

The soil of the plateau from the inundated strip to the Tangyidaung range is exceedingly poor and composed mainly of sand. Large areas of a stiff greasy clay called by the Burmans *kyit-mye* or *kyat-mye* occur in every direction, while gravel is also very common. As the hills on the west are approached gravel becomes the predominant soil. Loamy soil, suitable for paddy cultivation, is confined to the neighbourhood of the Sin-ma-daung hills, the Yindaingdaung and Kyauksindaung, two isolated hills in Myaing, and the banks of the Yama stream. The bulk of Seikpyu is composed mainly of sandy soil. The water carried in the rains by the streams in this township is heavily charged with silt. This fact is fully appreciated by the people, who lead this water by means of channels dug from the streams on to land which has been previously embanked with stout earth embankments. In three or four years a layer of silt from six to twelve inches in thickness is deposited in these enclosures, on which the cultivation of paddy can be practised.

In Pauk sandy soil is very common, as are also gravel and *Kyit-mye*. In the valleys of the Yaw and Kyaw rivers and the bottoms among the hills excellent black loam, charged with silt introduced from the rivers by means of canals, and from the hills by natural drainage, is met with.

The soil of the cultivated portions of the three western townships is mainly loam formed in the valleys, and is richly charged with decayed vegetable matter. It is exceedingly fertile. Gravel is probably the predominant soil of the hills.

Flora.

The upland areas of the district are very scantily provided with forest growth. Tree jungle occurs only on the Sin-ma-daung and Tangyidaung ranges, on the two small hills of the Myaing township, and also in the north-west corner of that township. Except in the last named locality and on the northern half of the Tangyidaung it is of very poor quality and is diminishing in quantity. Elsewhere in the uplands vegetation is represented by shrubby trees and coarse grass.

Enquiries tend to show that this upland area has for at least the last two hundred years, and in all probability for a very much longer period, been characterised by a very scanty forest growth. This fact is undoubtedly in the first instance due to the poverty of the soil, and the low rainfall which has prevailed.

Throughout the Yezagyo township, in the north-east of Myaing and throughout the southern half of that township, and on the west of Pakôkku southwards to where the Tangyidaung hills approach the river, innumerable toddy trees (Borassus flabellifer) occur.

They are also found to a much smaller extent in Pauk and Seikpyu.

These trees are annually tapped for the sake of the juice which flows from the blossom of the male and the fruit of the female.

This juice is boiled into a coarse sugar called by Burmans "*tanyet*," and more commonly known as jaggery. Large quantities of fuel are consumed by jaggery boilers. Roughly half a cart load is required for each tree tapped. It is estimated that approximately 800,000 trees are tapped yearly. It can therefore be imagined that the existence in the uplands of this industry is responsible for the diminution of the already scanty forest growth.

Fauna. In the uplands except near the Tangyidaung, wild animals are not plentiful. Jackals, foxes and hares are occasionally seen. *Thamin*, the brow-antlered deer of Burma, exist in small numbers on the border between the Yezagyo and Myaing townships and in the south of Pauk. Barking-deer are plentiful in the north-west of Myaing and in Pauk. A few wild pigs are found in Myaing. Those which used to inhabit the Yindaingdaung hill in that township were during 1906 exterminated by rinderpest. The game-holding are a of the district lies west of the Tangyidaung. Bison, *saing*, tiger, and panther are all found in Gangaw, and *saing* in Pauk. Wild elephants are occasionally met with in Gangaw, but do not permanently inhabit any part of the district. Barking deer and sambhur abound in the three western townships. After years of good inundation snipe and duck are fairly plentiful in the riverine area. Quail are found all over the uplands and in Pauk. Grey partridge are occasionally seen. Jungle fowl are very plentiful to the west of the Tangyidaung, but are seldom seen to the east of that range.

Fish. The Irrawaddy and Chindwin rivers and the inlets and depressions filled by their waters abound in fish, of which the most common varieties appear to be the *Ngamyin* (Pseudeutropius taakree), *Nga-bat* (Wallago attu), *Nga-gyin* (Cirrhina mrigaia), *Nga-thaing* (Catla buchanani), *Nga-dan* (Pangasius buchanani), *Nga-pè-aung* (Rohtee belangeri) and *Nga Lu* (Mugil ma-hamiltoni). In the clear upper reaches and pools of the rivers of the three western townships of the district mahseer (barbust or) are common.

CHAPTER II.

HISTORY AND ARCHÆOLOGY.

Administrative divisions, Burmese; Yaw-le-myo; Taik-kyan-kun-hnaywa; Pagan *wun*ship; Pakanngè *wun*ship; Pagan *wun*ship; Sale-anauk-chauk-ywa; Events during early years of annexation; Archæology; Tangyi-swèdaw pagoda; Shweku pagoda; Paungdaw-u pagoda; Thihoshin pagoda; Sithushin pagoda; Shwe-paung-laung and Shwe-môktaw pagodas; Alodaw-bauk pagoda; Shwekungya-ôk pagoda; Pakanngè monastery.

Former Administrative Divisions.

The country now included within the limits of the Pakôkku district, in Burmese times formed part of two administrative units, the Pakangyi and Myitsôn *kayaings*. *Kayaings* appear to have been creations of the later part of King Thebaw's reign, and are not appreciated by the people generally, though the word *kayaing mingyi* is often used as descriptive of a Divisional Commissioner. *Wun*ships as administrative units were much better known, and the *kayaing* was an aggregation of *wun*ships.

All that part of the district lying roughly north of the Pakôkku-Pauk Public Works road as far as the Tangyidaung hills, that is, the present headquarter subdivision except parts of the Pakôkku township, together with the present townships of Pauk, parts of Seikpyu, the whole of Saw, Tilin and possibly Gangaw, formed part of the Pakangyi *kayaing*. The remainder of the district was included in the Myitsôn *kayaing*. The Pakangyi *kayaing* lay entirely on the right or west bank of the Irrawaddy, and in addition to the areas mentioned, included the Pagyi *taik*, now part of the Lower Chindwin district. It was divided into the *wun*ships of Pakangyi or Pakan, and Yaw-le-myo (the four townships of Yaw), and the *taiks* of *taik-kyan-kunhna-ywa* (meaning backward-in-civilisation collection of seven villages) and Pagyi. The headquarters of the *kayaing* were situated at the walled town of Pakangyi about four miles inland from the Chindwin. The walls of the old town still remain in a fair state of repair. They are of brick some fifteen to twenty feet thick.

The *wun*ship of Pakangyi or Pakan was bounded on the north by the Yama stream, which separated it from Pagyi; on the west by the Tangyidaung, which separated it from Yaw; on the south by a line running a little north of,

and more or less parallel to, the Pakôkku-Pauk road; and on the east by the Irrawaddy and Chindwin rivers. The bulk of the town of Pakôkku was included in Pakan, the south boundary running from the Shweganbyu pagoda on the left bank of the Irrawaddy through the bridge which separates the Myintha quarter from the rest of the town, to the Thihoshin pagoda, and then on westward to the Tangyidaung hills.

The *wun* lived within the walled town of Pakangyi. His house was built on the site of the present District Fund bazaar. Near it were the office and jail. Under him were two *sitkès*. They were called the right and left *sitkè*, and nominally divided the *wun*ship between them into a north and south half; but as a matter of practice these jurisdictions were not regularly adhered to. There were also two *sayes*, or clerks, one *nakan*, who might be said to correspond with the Bench Clerk of English Courts, and one *kunbodein*. This latter official was somewhat similar to a treasury officer, but also computed and collected fees in civil and criminal cases.

These seven officials held Royal appointment orders and were all authorized to try cases. None of them were necessarily hereditary. The *wun*ship was divided up into 160 *ywas*, or village jurisdictions, each under a *thugyi*, or headman. *Thugyis* were hereditary officials. The *ywas* were again grouped into originally ten, and eventually twenty *thwethauk*ships. Each *thwethauk*ship or group of *ywas* was under a *thwethaukkyi*, who originally was the most influential of the *thugyis* of the included *ywas*. The appointment appears to have developed into an hereditary one. A *thwethaukkyi*, while acting as headman of the villages in his own immediate *ywa*, exercised however somewhat more extended magisterial and judicial powers than were possessed by simple *thugyis*. This extended jurisdiction was limited to cases in which all the parties were residents of his *thwethauk*ship. *Thugyis* were directly responsible to the *wun* for all revenue due from their charges, and sometimes placated a powerful *thwethauk* with one-tenth of the commission received by them, which itself amounted to a similar fraction of the revenue paid in. The terms *thwethauk* and *thwethaukkyi* are of military origin. The Burmese military organisation was formed on the following principle:—Five soldiers made up one mess (*o-za*), two messes made up one squad (*kyat*), five squads or fifty men formed one company or *thwethauk*. Each *thwethauk* was commanded by a *thwethaukkyi*. The term

thwethauk-tè means "to drink blood." Its use as a military term can be traced back to the ceremony by which in primitive times a fictitious consanguinity was created among combatants on the same side. This was the drawing, by means of a puncture made on the tips of the fingers, of blood, which was mixed with spirits and drunk. At the same time an oath was taken by the participators in the ceremony that they would stand by each other as brothers born of the same parents. A group of such blood drinkers would be formed into a band commanded by a *thwethaukkyi*. These military terms were introduced into the *wun*ship within the last hundred years. This fact coupled with the fact that a *thwethaukkyi* as such possessed no revenue powers indicates that military levies were supplied by the Pakan-wun to King Bagyi-daw during the first Anglo-Burmese war of 1824-25. When peace was declared the military control imposed over these contingents was withdrawn, and turned into a civil jurisdiction. Hence a *thwethaukkyi* was not as such a revenue officer, but a civil officer. All military divisions were based on multiples of ten, which accounts for the division of the *wun*ship into first ten and then twenty *thwethauk*ships.

The people of the *wun*ship, with a very few exceptions were *athis*, or civilians, as opposed to *ahmudans*, or those from whom personal service was due. As the facts above detailed indicate they nevertheless had to furnish soldiers for his expeditions, when called upon by the King. The number first fixed was 400 men. It was raised to 600 in the reign of Shwebo *Min*, and again by King Thebaw to 1,000.

The following are the *thwethauk*ships of the *wun*ship grouped according to the townships in which they now are situated.

Pakôkku township:—1, Pakôkku; 2, Kyauktat; 3, Kaing.

Yezagyo township:—1, Pakan; 2, Nan-u; 3, Alègyaw; 4, Sinchiya; 5, Mônnyinbyin or Yezagyo; 6, Kanbyu; 7, Salingôn; 8, Mônnyin.

Myaing township.—1, Myaing; 2, Alègan; 3, Pangan; 4, Kyauksauk; 5, Kunlat; 6, Lingadaw; 7, Letyetma; 8, Pyathi; 9, Chaungzôngyi.

The bulk of the revenue was paid in the form of *thathameda*, but a little land revenue was levied on alluvial lands.

The Yaw-le-myo *wun*ship. The Yaw-le-myo *wun*ship was composed of the four *myos* of Pauk, also known as Yaw and sometimes as Kyakut, Tilin, Saw and Laungshe. It was bounded on the north by the *taik-kyan-kunhna-ywa*, now the Gangaw township, and by the *gyaungs*, or collection of valley villages, now in the Lower

Chindwin district. On the west the boundary was the Chin Hills, on the south the Salin *myo*, and on the east the Tangyidaung. Originally each *myo* was ruled by a *sawbwa*. Under the *sawbwas* the Tilin *myo* stretched northward to the Kale State, now in the Upper Chindwin District, and eastward to Myaing: while Pauk extended eastward to the Irrawaddy. It is said that Tilin was first peopled by Shans, captives sent from Mogaung. From the fact that they were ruled by *sawbwas* it is probable that all four *myos* were so peopled. In the time of Naungdaw-paya, son of Alaung-paya, the *sawbwas* of Tilin, Pauk and Laungshe rebelled. Their revolt was unsuccessful and terminated in their abolition, and in the substitution of *myo-thugyis*, who were sent by the King to rule in their stead. At the same time the territories of the Tilin and Pauk *myos* were considerably reduced. The Pôndaung was made the eastern boundary of Tilin, while Pauk was confined to the country west of the Tangyidaung. About the year 1202 B.E. (1840 A.D.) the four *myos* were formed into a *wun*ship called the Yaw-le-myo, of which the headquarters were located at Pauk town. The *myos* were divided into a number of *ywas*, each under its own *thugyi*. Latterly the *myo-thugyis* appear to have become reduced to the same status as the *ywa-thugyis*.

The Taik-kyan-kunhna-ywa. North of the Tilin *myo* was situated the *taik-kyan-kunhna-ywa*, a collection of seven *ywas*, each under its own headman, and all looking up to the headman of Minywa as their chief. These villages appear also to have acknowledged the rule of the Yaw-le-myo *wun*.

The *wun*ships of Pagan and Pakanngè. Two other *wuns* exercised jurisdiction in what is now the Pakôkku District.

The *wun*ship of Pagan. All that part of the present Pakôkku township not included in Pakangyi, formed part of the Pagan *wun's* charge, which also contained several villages in the valley of the Yaw, now in the Seikpyu township. Each village was under its own headman, and villages were again grouped into four larger units called *tans*, and into two *suns*. The Taungbôn and Ngakyaw *tans* were formed respectively of nineteen and of seventeen villages lying between the Irrawaddy and the Tangyidaung. An upper and a lower *tan* were formed of nine villages each in the Yaw valley. The villages of east and west Kyauktaung formed the two *suns*, so called because they projected like points into the territory of the neighbouring *wun*ship of Pakangyi.

Tans were ruled by officials styled *tangaungs*. The

word *tan* means primarily a line or row, and secondarily a location or quarter assigned to a particular community. One of its earliest significances is the parallel row of houses abutting on a single roadway. Most Burmese villages would commence with such a parallel row of houses with a road between. Such a village would in the old days be originally occupied by members of the same clan, nationality or profession and would be placed under a *tangaung*. As population increased the number of cognate villages would grow. The word *tangaung* would then come to be applied to the headman of the most influential village in the community, probably the parent village. The terms *tan* and *tangaung* are of civil origin and *tans* appear to have existed in multiples of two. *Tangaungs* like *thwethaukkyis* possessed civil and criminal powers higher than those possessed by the *thugyis* under them. It is both asserted and denied that they were responsible for revenue due by the villages of the *tan*.

The Sale-anauk-chauk-ywa.

The remaining villages of the district, now in the south of the Seikpyu township, were styled the Sale-anauk-chauk-ywa, or six western villages of Sale. They were immediately under the *myook* of Sale, a town on the Myingyan side of the river, who himself was a subordinate of the *wun* of Pakanngè, a town eight miles lower down than Sale.

Early years of annexation.

At the annexation Maung Yeik, who some years previously had been *wun* of Pakangyi, had recently been appointed *kayaing-wun*. When the expedition which resulted in King Thebaw's downfall started he was about to take up his new appointment, and had arrived at Myingyan. Maung Tha Hmôn was actually at Pakangyi as *wun*. He received orders to oppose the British. Accompanied by his twenty *thwethaukkyis*, all his *ywa-thugyis*, and about 600 men, he marched south to the town of Pakôkku. Even the prisoners from the Pakangyi jail accompanied him, as no one could be left behind to guard them. Near the monastery on the river bank in the Civil station the *wun* threw up an earthwork and blocked the inner channel of the river, which latter proceeding was of doubtful utility as this channel was only navigable by country boats. As the British flotilla came abreast of the earthwork the Burman force opened fire with the six cannon they possessed. The British replied, their first two shots carrying away two of the *wun's* flagstaffs, while the third passed through his hut. Then his force scattered and fled. The *wun*, *thwethauks*, and *thugyis* were unable to restore order. The prisoners ran with the rest of the force, and not only ran

but regained their liberty. The *wun* returned to Pakangyi, and taking what Government revenue he had collected at that place, decided to try and join the King, who he heard had himself left Mandalay and taken refuge up the Chindwin. At Ma-u village he was robbed, but managed to make his way to Mandalay, where finding the King had been deported, he retired into private life.

In the meantime the *kayaing wun* Maung Yeik had met the British at Myingyan, and with their consent and orders came on to Pakangyi to take charge of the Government and to preserve order. Many of the *thwethaukkyis*, however, were not inclined to submit to the invaders. Among the prisoners who escaped when *wun* Tha Hmôn's force was routed was one Nga Kwe, who had been imprisoned for cattle theft. This man was elected as leader and became the most notorious dacoit chief in the neighbourhood for the next three years. One of his earliest exploits was to attack Pakangyi town and murder the *kayaing wun*. Sitkè U Lu Tha appears to have maintained himself at Yezagyo, but with this exception all order now vanished and the country became the scene of much disturbance and lawlessness. As the expeditionary force steamed up the river the towns of Pagan and Myingyan were touched at, and each was made the centre of a unit of civil administration. It was thought that the country on the right bank of the river right up to the hills which separate Burma from Chittagong, had hitherto been subordinate to the *kayaing wun* of Myingyan and the *wun* of Pagan, and it was accordingly included in the two districts then formed of Myingyan and Pagan. Each of those two districts had enough to do to quell the disturbances in the immediate vicinity of its own headquarters, with the result that the area west of the river was left very much to itself for the first year after annexation. During the years 1885-86 Military Police posts, furnished from Myingyan, were established at Yezagyo, Lingadaw, Myaing and Pakangyi. The people of Pakôkku town early applied to the Deputy Commissioner of Pagan for help, and he sent them a small force of thirty men of a Native Infantry Regiment, which was attacked unsuccessfully by Nga Kwe. Subsequently this force was increased to 100 men, and some Civil Police, who held two stockades near the town. They were on several occasions attacked but managed to beat off their assailants. These small garrisons, though affording some small measure of protection to the country in the immediate vicinity, were powerless to take the field. Dacoit leaders and their followings

increased. The chief of the leaders were Nga Kwe, the Shwegyobyu Mintha, Nga Saga, Ya Kut and Nga Tha Do. The Shwegyobyu Mintha was the son of the Hlaing Mintha, a brother of King Mindôn, who was accused by that Monarch of treason and executed. The son was taken to Lower Burma, where he was educated and eventually obtained an appointment under Government as a vaccinator. At the annexation he formed the extravagant notion of ridding Upper Burma of its invaders and of himself ascending the throne. He commenced his rebellion about May 1886 and assisted by the *ex-kayaing wun* of Myingyan, who at first had submitted to the British, he established himself at the village of Kanlè in Myaing. Here he built himself the semblance of a Royal residence and proclaimed his descent. His following soon swelled to about 3,000 men under the leaders Nga Kut and the Henzada Bo. Dacoities in the surrounding villages appear to have been the only result of his rebellion. His force was eventually dispersed by troops and he himself driven westward into the Yaw country. He seems to have been a man of very poor calibre. He was ultimately captured by a very simple ruse and hanged after trial. Nga Kwe throughout the year 1886 harried what is now the Pakôkku township, and actuated apparently only by desire of plunder, attacked Myitche opposite Pagan, which was not permanently garrisoned.

Early in the year 1886 the Deputy Commissioner of Pagan, Captain Eyre, had entered into communication with the local officials in the Yaw country, some of whom actually sent in offers of submission. In December of that year he left Myitche with a force of Native Infantry with the object of exploring and reducing the Yaw tract to order. Slight opposition was met with during the crossing of the Tangyidaung range at the Depya pass, about twelve miles south of where the present Pauk road crosses those hills, and Pauk town was reached on the 8th of December. The leading men of south Yaw came in and submitted. Ya Kut, a former official and the leading dacoit chief in these parts, fled across the Pôndaung. A portion of the force crossed that range and reached Kyaw village on the 19th. Early in January Ya Kut's force was encountered and defeated, and Tilin was occupied on the oth. In February a force marched due north from Pauk to L--o village. The headman Nga Saga was in arms and gave almost as much trouble as Ya Kut. This force was joined by another which had crossed the Tangyidaung from Kanlè, where it had been dealing with the adherents of the Shwe-

gyobyu Mintha. The combined force then marched north-westwards to Minywa, now in Gangaw, and at that time the resident village of the chief of the seven *thugyis* of the *taik-kyan-kunhna-ywa*. Minywa was reached on the 12th of February, and two days later Captain Eyre entered Gangaw. Little opposition was met with and arrangements were made that each *thugyi* should govern his *ywa* pending the development of further administrative measures. In south Yaw Myoôks were appointed at Tilin, Pauk, Yawdwin, and Laungshe. Saw was placed under the Yawdwin Myoôk. By the end of February Captain Eyre and the troops had left Pauk and the first Yaw expedition was over.

During 1887 that part of the Pagan district, which had hitherto been looked on as the Pakôkku township, was turned into a subdivision. Owing to its importance and disturbed state it was constituted a distinct Military Command and an Assistant Commissioner was appointed to the civil control. Two regiments of Native Infantry and one of Cavalry were stationed in the town. With this increase in force greater activity became possible During the open season of 1887-88 the pacification of the country was pushed on with great vigour. Ya Kut, who was active in north Yaw, and Nga Tha Do, who mainly harried the Minbu border, were respectively captured and killed. The settlement of the Yaw country was placed on a satisfactory footing. In July 1888 the area hitherto comprising the districts of Myingyan and Pagan was redistributed. The river became the dividing line between the two new districts of Myingyan and Pakôkku, which were then formed. The town of Pakôkku became the headquarters of the Pakôkku district. A Military Police Battalion and a Civil Police Force were allotted to the district. During the cold weather of 1888-89 the work of pacification was actively carried on. Nga Kwe whose depredations were confined to the Myaing and Pakôkku townships, and who for two years had resisted or evaded all efforts to capture or destroy him, was killed by a pseudo-follower. Nga Saga, who, after the execution of Ya Kut, was the most prominent dacoit leader in the Yaw country, was killed in the Lower Chindwin District by special operations directed against him. Before he was disposed of he had been an active spirit in a somewhat serious rising in the neighbourhood of Gangaw, which for a time held in check and even confined to their entrenchments a considerable body of troops, who had been assembled there with a view to the settlement of the Chin Hills. This rising soon melted away on the arrival of

reinforcements. The Yaw country was explored by the Public Works Department with a view to opening it up by roads and work on the Pauk-Gangaw road was carried on. At the time the administration report for the year 1888-89 was written, the Yaw country as well as the rest of the Pakôkku district was undisturbed by serious or organised crime. The last of the dacoits were accounted for during the cold weather of 1889-90, and from that time the history of the district has been a record of peace and progress, disturbed only once in March 1894 by an abortive rising in Pauk, confined to practically one village, and headed by an ex-monk, Nga Hmin, who styled himself the Setkya *mintha*. The Subdivisional Officer hearing of the contemplated outbreak removed the firearms of the Civil Police to the Military Police post situated at some distance from the Civil Police lines, and himself went out after the rebels. In his absence from Pauk they attacked and burned the Civil police-station, an indefensible bamboo building. The rebels were followed up, their leader shot and his gathering dispersed.

Archæ logy.

Numerous pagodas are scattered over the district. Most of them are in a good state of repair. The oldest are all connected with King Narapadi-sithu of Pagan, who either built or restored them.

Tangy swèda pagod

The Tangyi-swedaw is probably the oldest pagoda in the district. It is situated on the Tangyidaung hills below Myitche, and is supposed to have been built by King Anawrata in 422 B.E. (1060 A.D.), who placed in it a tooth of Gotama. It is said by some to be related to the Shwe-zi-gôn pagoda opposite to it at Nyaung-u on the Myingyan bank of the river, which was also built by the same King. It is asserted that gold leaf plastered on the Tangyi-swèdaw flies off as soon as night sets in and settles on Shwe-zi-gôn.

Shwek pagod

The Shweku pagoda in the town of Pakôkku was built about the year 1186 B.E. over the vault, or cave, in which a son of one of the lesser queens of Narapadi-sithu is said to have been buried.

Paung daw-u Pagod

The Paungdaw-u pagoda is also situated in the town of Pakôkku. One annual festival is held in its honour. The centre of attraction is an image of Buddha, which was carried about by King Narapadi-sithu in the bows of his magic barge. This image was till the year 1234 B.E. in the possession of a *pôngyi* of Ngathayauk village, Myingyan district. In that year the residents of the town, with Payataga U Kin at their head, obtained the *pôngyi's* permission to bring away the image, and instal it in the Paungdaw-u pagoda.

hihosh- pago- a.

The Thihoshin pagoda is the most sacred in the town of Pakôkku. The legend runs that King Narapadi-sithu of Paukkan or Pagan visited the island of Ceylon. The reigning King, Thilaha, of that island seeing that Narapadi-sithu was a powerful monarch entered into friendship with him, and gave him his daughter Saw U Swe in marriage. At the same time he presented him with a magic boat or barge made of Thingannet wood, whose carrying capacity was 100,000 men. He also gave him an image of Buddha, in the construction of which ten different kinds of wood had been used. This image had been in the possession of the family of the monarchs of Ceylon for ages past. King Narapadi-sithu returned to his country in his barge and was proceeding up the Irrawaddy. When it arrived opposite to the site of Myitkaing village, now a ward of the town, the barge behaved in an erratic manner, moving from side to side and absolutely refusing to proceed up stream. A village named Paungkaing was established on this spot and a pagoda built, in which the image presented by the King of Ceylon found a permanent resting place. The pagoda is known as the Thihoshin from the fact that the image came originally from Thiho, or Ceylon.

ie hu- n and npani- pago- s.

The Shwetandit pagoda situated five miles north of Pakôkku town and the Singyo-Shweku, Sithushin and Sin-(or Shin)-madaung pagodas in the Yezagyo township are all connected with each other and with King Narapadi-sithu and his magic barge. A popular account of these is as follows. Shwe-Ein-Zi, daughter of Kyanyit Min, a King of Pagan, had a lover, the Padeikkaya Mintha, a prince of India. This prince possessed a charm, which he always carried in his mouth and which enabled him instantly to arrive at any place to which he wished to go. Kyanyit Min not knowing that his daughter was in love with the Padeikkaya Mintha gave her in marriage to Prince Saw Yun. A *pôngyi* of great sanctity, who had attended the wedding as a guest, on his return home met the Padeikkaya Mintha on the road. The prince asked him whence he was returning and the *pôngyi* replied that he was returning from the wedding of Princess Shwe-Ein-Zi with the prince Saw Yun. On hearing this the prince uttered a shout of pained surprise and unknown to him the charm dropped from his mouth. Shortly after the Prince died. The charm rolled into the fork of a Thingannet sapling, where it remained till finally the wood of the tree grew round it. King Narapadi-sithu, also known as Mani-sithu, the son of Saw Yun and the Princess Shwe-Ein-Zi and reincarnation of the Padeikkaya Prince, cut down this

tree and made a boat, or barge, out of its wood. The charm lay in that part of the tree which formed the bow, and in consequence of its presence the barge was gifted with the marvellous power possessed by the original owner of the charm. Narapadi-sithu one day went on a visit to the Myinmo Taung, the land from which the sun returns every morning when it rises. There he met the Tha-gya Min, the king of the Nâts, who gave him five images of Buddha made of "*Thayetkan*" wood, a species of fabulous wood with a delicious scent. Though he possessed the power of instantly creating them, Tha-gya Min actually carved the images, and out of the chips and shavings which fell from his chisel, he evolved a sixth image. After another miracle involving the creation of the Shinhla and Shinbyu images, now in the Sagaing district, Narapadi-sithu returned to his kingdom. During his return journey his barge was one night tied up at a place called Anyathihadaw, where a black hen jumped into the bow of the barge and laid an egg. His *pônnas* told the king that this was proof that Gotama had lived in the neighbouring jungle as a Chinthe. The next halting place was near the present village of Pakanngè. Here the king caused one of the images to be tied on the back of a female elephant, which was allowed to wander accompanied by his ministers and *pônnas* till it lay down. The spot on which it first lay down was to be the site of a pagoda, in which the image on the elephant's back was to be deposited. The King thought the site first chosen in this manner was somewhat cramped, but on being assured that it was the spot on which Gotama had reposed when a *thamin*, gave order for the building of the present Sithushin pagoda outside the town of Pakangyi. He at the same time issued orders that at Anyathihadaw another pagoda was to be built. In each of these pagodas one of the six images of Buddha given him by Tha-gya Min was deposited. The sites of three more pagodas were chosen in the manner in which that at Pakangyi had been determined, at the present villages of Singyo and Shwetandit, and on the summit of the Shinmadaung hill. In each pagoda an image was deposited, the sixth which was miraculously evolved out of chips and shavings was also placed in the Pakangyi pagoda. The elephant's conduct in lying down at Singyo, Shwetandit and on the Shinmadaung was determined by the facts that Gotama in former existences inhabited these places as a *hintha*, a fish and a hornbill respectively. The Anyathihadaw pagoda is on the Irrawaddy in the Shwebo district. Some time ago the image from the pagoda on the Shinma-

daung was removed and placed in the Pakangyi pagoda, alongside the other two.

All the five images in this district were enclosed inside hollow wooden figures about a cubit high, and all but the one at Shwetandit have been so smeared by pious Buddhists with gold leaf that they are now each about two feet high and have increased proportionately in width. The three in the Sithushin pagoda are called Sithu-shin, Shin-(or Sin)-madaung, and Datpaung-myezu.

The pagodas were built in the year 579 B.E. In 1245 B.E. King Thebaw removed the three Pakangyi images to Mandalay, after a prediction by a fortune teller to the effect that all images of fame throughout his dominions must be worshipped if he wished to avert the rise of a rebel prince. They were accordingly taken to Mandalay on the understanding that the removal should be for a short time only, and when they were given to the messengers of the king each image was weighed. It is said the Sithu-shin weighed 47 viss, about 172 pounds. In 1248 B.E. when the country was pacified, the *Thathanabaing* restored the images to the clergy and laity of Pakangyi. It is locally stated that on their return they had lost considerably in weight. About the year 1894 the Sithushin image was stolen. Some twelve months after its disappearance it was discovered in a field near Sodwin village by a villager who had gone to look for his cattle. It was restored to the pagoda very much reduced in weight.

A small area of State land in the vicinity of Pakangyi was assigned free of revenue for the remuneration of the caretakers, one of whom is supposed to be continually on guard in the pagoda.

In all three pagodas at Pakangyi, Singyo and Shwetandit the images are kept securely locked up in vaults.

Shwe-paung-laung and Shwe-môktaw.

In the Pauk Township are two pagodas of great local fame, the Shwe-paung-laung and the Shwe-môktaw, standing by each other on a cliff on the right bank of the Yaw river opposite to Pyinchaung. The story goes that Dama-thawka, King of Pagan, first built a small pagoda here in 453 B.E. (1091 A.D.). In 557 B.E. (1095 A.D.) Narapadi-sithu, the famous warrior King of Pagan, after he had sailed down the Irrawaddy in his war boats, and then up the Sittang where he had founded Toungoo, visited Yaw. When the Royal barge arrived opposite Damathawka's pagoda, it could not be made to move. The *ponnas* who accompanied the king said they must be in the vicinity of some sacred spot. The party landed and found Damathawka's

pagoda and the pious king determined to enlarge and beautify it and make it famous throughout his dominions. When the work was commenced the Tha-gya Min, the king of the Nâts, himself appeared and presented to the King relics of Shin Gotama to be placed in the shrine. These the King put in an emerald tube half a hand long and this was encased in one of gold and then in one of silver, and then in one of an alloy of gold and silver, and finally in one of brass. Yet so true and delicate was the workmanship that each tube was exactly half a hand in length.

Whilst it was building the holy man Shin-tha-ngè from the Palaung country appeared riding on a tiger. Narapadi-sithu made a statue of the saint as he so appeared and raised a *thein* over it which he called Shwe-paung-laung. The figure is still to be seen in the pagoda. And because the King's raft was held by unseen hands so that it could not move, no one has ventured since then to keep a boat or raft on this part of the Yaw river. The King held a feast to celebrate the completion of the two pagodas. The annual pagoda festival is held in Tabaung on the anniversary of this feast. This story receives substantial corroboration from the inscriptions on the stone slabs found in these pagodas. According to them King Damathawka built the pagoda originally of gold and silver bricks, hence the name of Shwe-môktaw. King Narapadi-sithu covered the original with the pagoda now seen and built the Shwepaunglaung pagoda.

Alodaw-bauk pagoda.

The Alodaw-bauk pagoda is situated in the Seikpyu Township near the village of Ywama North. The pagoda visible from the outside is of recent construction having been built in the year 1251 B.E. (A.D. 1889). Inside this protecting pagoda is a small pagoda, the Alodaw-bauk proper, which is undoubtedly old. There are no inscriptions. By some it is ascribed to Asoka, but it was probably built by Damathawka. The present protecting pagoda took the place of an older one, said to have been built by Narapadi-sithu, which had fallen into decay. The name Alodaw-bauk is said to have been given to it because it became overgrown with jungle and was forgotten by the people. It was then rediscovered and called Alodaw-bauk, or "appearing of its own accord".

Shwekungya-ôk pagoda.

About two miles south of Tilin is the famous Shwekungya-ôk pagoda, also said to have been erected by King Narapadi-sithu of Pagan. The story runs that while he was travelling in a raft on the Maw river he saw a gold fish and pursued it, and eventually caught it in a deep pool under the cliff, on

which the pagoda now stands. A small tank was dug and the fish put in, and the tank was covered with a golden net, and a pagoda built over it; hence the pagoda was called by its present name, which means "covered with a golden net". Near the pagoda is a village of pagoda slaves with whom ordinary Burmans have no intercourse. No Burman will eat with them nor intermarry with them, nor may they come up into a house without permission. Their origin is not quite clear, but the common account is that some hundred years ago there was a great famine and almost the whole of the country was deserted. A few families some fourteen or so in number, who were starving settled near the pagoda to live on the offerings made there, and so became pagoda slaves.

Pakanngè monastery. A building which deserves mention is the monastery outside the village of Pakanngè, which when it was first built must have been one of the finest in Upper Burma. It stands within a masonry wall enclosing an area of about two acres. The main building consists of three separate main rooms, which are built on a flooring ten feet from the ground, and which is carried on 332 pillars, each formed of a single teak tree, and each of which at a height of four feet from the ground measures from six and a half to seven feet in girth. Along the centre line of the room these pillars are continued upwards through the flooring to the roof, the highest point of which in the case of the main room is 70 feet from the ground. The total length of these pillars, allowance being made for the portion sunk in the ground, is therefore about 80 feet. The monastery was built by the Pakan mingyi, U Yan We. Building operations started in 1226 B.E. (A.D. 1864) and were completed seven years later. The master carpenter was Maung Tha Gyi of Pakanngè. It is said that Rs. 54,762 was paid in local labour alone, and that the total cost was three lakhs of rupees. With the exception of the staircases the building is of teak throughout, and the fine teak logs supporting it were all brought down the Chindwin. The reputed cost is no doubt exaggerated, but these logs alone must be worth a considerable sum. Their collection accounts for the time occupied in completing the building. At one time 160 monks were accommodated in the monastery and were fed by the bounty of the Pakan mingyi. The buildings are now not occupied except by pigeons, and are falling into disrepair. The local *gaing-dauk*, U Teza, who came to the monastery as a monk when it was first completed, now lives in a smaller building within the monastery enclosure.

CHAPTER III.

THE PEOPLE.

Population; density; races of the people; Chins; Taungthas; Yaws; Zinmè Shans; Talaing captives; non-indigenous races; Europeans and Eurasians; Christians; Buddhists; out castes; food of the people; condition of the people.

At the census of 1901 the population of the district was 356,489, of whom 167,835 were males and 188,654 were females.* This population was distributed as follows:— Population.

Town or township.	Area in Sq. miles.	Population.	Density per square mile.
Pakôkku town	4	19,456	4,864
Pakôkku township	391	48,888	125
Yezagyo township	377	87,797	233
Myaing township	780	71,976	92
Pauk township	1,490	41,021	28
Seikpyu township	782	31,100	40
Saw township	1,200	19,868	16
Gangaw township	698	24,200	35
Tilin township	488	12,183	25
The district	6,210	356,489	57

At the census of 1891 the population of the area which corresponded with the district as at present formed was 313 037. There was therefore an increase within the ten years of 43,452, or 14 per cent. The population of Pakôkku town decreased by 2·58 per cent., the townships of Pakôkku, Yezagyo and Pauk showed increases of about 20 per cent. each, Myaing, Tilin and Saw showed increases of just over 10 per cent. each while in Seikpyu and Gangaw the increases were under 10 per cent.

So far as population goes the town of Pakôkku is second largest in Upper Burma, ranking next to Mandalay. It is probable that its population will not expand. In rural areas population is most dense in the Yezagyo township, because that township possesses a larger river frontage and consequently a larger area of fertile land than any other. The Pakôkku township comes next and the fact that the density of its population exceeds 100 to the square mile is due partly to its inundated area and partly to the existence of several large villages in the neighbourhood of Density.

* NOTE.—The census of 1911 showed 196,159 males and 213,750 females, a total population of 409,909.

the town. Myaing except on the west is fully occupied by villages, while in all the remaining four townships of the district huge stretches of country are pure forest land.

Races. The indigenous races of the district are Burmans, Chins and Taungthas. Burmans predominate and account for no less than 341,360 of the population.

Chins. Chins number 6,535 and are mainly confined to the three western townships. They consist of immigrants from the various tribes on the western border and their descendants. Pure Chins are also found in some of the western Seikpyu villages, their women being easily recognised by their faces, which are tattoed all over a dark blue colour, no pattern being employed. Some of the Pauk villages are peopled by descendants of pure Chins, who have however become quite Burmanised, using Burmese as their only language.

Taungthas. Taungthas are a peculiar race found mainly in the Tilin township, but occurring also in the north of Saw. No satisfactory theory as to their origin has yet been put forward. The only tradition universally accepted by them is that their forefathers lived on Popa Hill in the Myingyan district and that they migrated thence many years ago.* The first families settled near the Kyawywa creek which flows into the Myittha river just above Minywa. When their numbers increased so that enough subsistence could not be found in this settlement they determined to emigrate. The three headmen who were brothers discussed the question of the direction they should take, but the point was settled for them by the branching of a huge Nyaungbin, or Pĕpul tree, situated in the settlement. One of its branches pointed north, another east and a third south, so one brother and his followers settled in Gangaw, the second in Tilin, and the third went down to Yawdwin. The tree is still pointed out. The language spoken by Taungthas is quite distinct from Burmese, but is very much like Chinbôk. The names of the most common articles, and the roots of all the principal verbs are the same in both languages. The men dress like Burmans, but the women, who in general physique resemble the hill Karen women of Lower Burma,

* Note.—There is a story of their expulsion from Popa by the Burmans, which the Taungthas deny. As there was not room for both races they agreed to have a trial of strength. The champion bowman of either tribe was to shoot an arrow at the chimney rock southwest of Popa *myo*. The Taungtha champion shot first, but his arrow splintered harmlessly on the rock: the Burman's arrow buried its point in a thick layer of bees wax with which he had thoughtfully coated his side of the target, outwitting the simple Taungthas.

instead of the *tamein* wear a white cotton petticoat reaching to the ankles, fastened round the waist with a belt of shells or silver wire, and a plaid shawl across their shoulders. The Taungthas are devout Buddhists, but there is at the same time a good deal of *nat* worship among them. They are more robustly built than Burmans as a rule, and are more industrious, making good cultivators. Their features are more Aryan than Mongolian in type. They are of a distinct race from both Burmans and Chins, and intermarriage with these races is strictly forbidden. Courtship among them is unknown. In its stead the curious custom exists of sending once a year, in the month of Tagu (April), all the young men and women of each village into the jungle. They return next morning when the rest of the village goes out to meet them with beating of gongs and drums, and each couple is considered duly married. Adultery and divorce are unknown among this primitive people. At the census of 1901 they numbered 5,701 all told.

The silk worm industry is carried on to a large extent among them, and they turn out the well known Yaw *pasos*. The dark blue that forms the chief characteristic of their weaving is obtained from a plant of the indigo species which is cultivated in their villages.

Yaws. The bulk of the people of the three townships of Saw, Tilin and Gangaw, although otherwise indistinguishable from Burmans possess a distinct brogue or accent by which they are easily recognised. This mainly consists in the pronunciation of all long "i" sounds as broad "a"s. Thus thakin becomes thakan, and myin becomes myan. They are known as Yaws and are probably descended from Shans.

Shans. The people of seven villages in the Yezagyo township claim a Shan origin. It is said they are the descendants of Zinmè Shan prisoners who were settled in the district in the year 909 B.E.

Talaing captives. The people of Sinchiya village on the Alègyun island and of a few villages in the neighbourhood of the Tangyi-swè-daw pagoda are said to be descended from Talaing captives of war. No trace of Shan or Talaing origin however remains, and those claiming such origin are not distinguishable from their surrounding Burman fellow villagers.

Non-indigenous races. The balance of the population is accounted for mainly by natives of India who are either in the Military or Civil Police or in domestic service or are shop-keepers or traders in Pakôkku town, and by Chinamen of whom there are about 700 in the district.

Europeans and Eurasians.

Europeans and Eurasians almost entirely consist of Government servants and are mainly confined to the headquarters of the district.

Christians.

At the census of 1901 Christians numbered 193. Their numbers have however increased and probably by now total 300. There are four communities, the Anglican made up mainly of officials, the English Wesleyans who have a Mission in the town established in 1889, the American Baptist whose numbers amount to about 40, but who have no ordained resident pastor, and the Roman Catholics.

Buddhists

The majority of the people are Buddhists, 352,355 having been returned at the last census as professing that religion. *Nat* worship here as elsewhere in Upper Burma has a great hold on the people.

The district is approximately covered by nine *gaings*, each governed by *Gaing-ôks* and *Gaing-dauks*. The whole is under the authority of a *Gaing-gyôk*, or Bishop. The present holder of that office is U Ganda, who was appointed by King Mindôn in 1234 B.E. He has borne the title and seals of a Sadaw-gyi in the reigns of King Mindôn, King Thibaw, and during the British regime up to the present time. He is now seventy-eight years of age and has a considerable local reputation as a Pâli scholar. The seat of the *Gaing-ôk*-ship was originally at Pakangyi. U Ganda's official residence in Burmese times was at Yezagyo, and since the development of Pakôkku under British influence has been transferred to that town. His *kyaung* or monastery is the centre of a large *taik*, or collection of monasteries, named Mahw-a-wi-thôkdayama kyaung *taik*, in which over three hundred *upazins* constantly reside as students. They are drawn from all over the province, but mainly from the Pakôkku and surrounding districts, by the *Gaing-gyôk's* reputation for learning. He has two assistant teachers, both also considered able and learned Páli scholars. U Ganda has a rooted antipathy to printed books, and refuses to allow the publication of any of his works. This has prevented him from gaining a provincial reputation. He is however the author of several analyses of Pâli texts, and other works, which are used in the palm leaf manuscript form throughout the monasteries of the district.

Outcastes.

Sandalas, or beggars whose main occupation is supposed to be connected with cemeteries, are found in Pakôkku town and also in Yezagyo and Pakangyi. The people of Tangyi and Seikkwa villages in the neighbourhood of the Tangyiswèdaw pagoda are descended from pagoda slaves, originally Talaing captives of war dedicated

by King Anawra-ta, but the slur which attaches to such origin has been nearly obliterated since the annexation in the case of the people of these villages.

Food. East of the Pôndaung the main food crop cultivated is jowar but this crop is so uncertain in the uplands that large quantities of paddy are annually imported into the district, and distributed over the townships of the headquarter sub-division. *Pè-yin* is grown for food in the riverine area south of Pakôkku town. Maize grain has been extensively used as a food for the last few years but is not relished. *Lu*, or Job's tears, is grown for food in Pauk, while west of the Pôndaung, rice is the main food.

Condition of the people. The bulk of the people-are not well off, and life in the up-land areas is not easy. Wealth is concentrated in the rive-rine tract and in the Yaw and Kyaw valleys in Pauk in both of which localities the most fertile land of the district is found. Excluding the town of Pauk and the larger villages it was found that the average income of agriculturists per household in the five townships east of the Pôndaung amounted to Rs. 103. This income varied from Rs. 147 in the richest part of the riverine area and Rs. 130 in Pauk to about Rs. 85 in the upland villages. In spite of the hard lives they lead and of constant crop failures the people appear to be well nourished, and there are no signs of great poverty. They certainly have a wonderful capacity for weathering bad seasons. The harvests of 1905-06 and 1906-07 were poor and were followed by perhaps the worst experienced since the annexation. These three successive bad years appear to have made no appreciable effect on the district.

CHAPTER IV.

AGRICULTURE AND IRRIGATION.

Area occupied for agriculture ; kinds of cultivation ; classification of land ; paddy cultivation ; *mayin* ; monsoon paddy ; *mogaung* paddy ; irrigated paddy ; method of cultivation ; crop failure ; subvarieties of paddy ; *ya* land ; crops on *ya* land ; maize ; jowar ; late sesamum ; early sesamum ; groundnut ; crops on alluvial land ; tobacco ; chillies ; *pe-gya* ; other *kaing* crops ; inundation ; special crops ; onions ; betel vines ; sugar cane ; agricultural implements ; carts ; cattle agricultural seasons ; cropped area ; tenancies ; mortgages ; agricultural advances ; co-operative societies ; irrigation ; well irrigation ; tanks ; canals.

Area. Of the total area of the district, comprising some 6,210

square miles, 768,331 acres, or rather less than one-fifth is occupied for purposes of agriculture.

Kinds of cultivation.

Two main kinds of cultivation are recognised by the people, wet cultivation and dry. The former is restricted entirely to the growing of paddy, for though other crops, such as sugar cane, onions, and betel vine require constant irrigation, they are not grown in standing water as in the case with paddy. Dry cultivation includes the raising of all crops other than paddy.

Classification of land.

The following table shows the classification of the occupied area of the district by townships, into land adapted for the two main kinds of cultivation practised :—

Township.	Total area	Occupied area.	Land classed as	
			Paddy land.	Non-paddy land.
	Acres.	Acres.	Acres.	Acres.
Pakôkku ...	252,921	148,169	3,554	144,615
Yezagyo ...	241,269	138,622	33,364	105,258
Myaing ...	499,006	264,830	30,231	234,599
Pauk ...	953,600	100,226	10,648	89,578
Seikpyu ...	500,311	83,093	12,018	71,075
Saw ...	768,000	13,667	10,193	3,474
Gangaw ..	446,720	14,115	10,315	3,800
Tilin ...	312,320	5,609	4,479	1,130
The District ...	3,974,147	768,331	114,802	653,529

It will be seen that the bulk of the agriculture of the district is of the dry nature, one-sixth of the occupied land only being suited to the cultivation of paddy. The preponderance of *ya* land, as it is called, over paddy land is due to the nature of the surface of the country, which is in the main undulating or hilly, to the nature of the soil in the composition of the bulk of which sand is the chief ingredient, and which is therefore very porous, and to the scarcity of water, due to a scanty rainfall and absence of possibilities of irrigation. In the three townships west of the Pôndaung, paddy land exceeds *ya* land. Population in those townships is very limited, and cultivation is restricted to the valleys of the streams and rivers which water them and in which alone human habitation is found. The rainfall is also much heavier than in the other five townships.

Paddy.

Paddy cultivation is divided into two kinds. One is the

growing of paddy during the dry months by means of water artificially led on to the paddy fields, and the other is the growing of paddy during the rains. In the latter case rain may be depended on to supply the requisite water alone or may be supplemented by irrigation. Paddy land is always situated in hollows so that it gets drainage from the surrounding country, and the soil of such land is invariably heavy loam capable of retaining moisture for long periods. Water is the main factor in the successful raising of this crop.

Mayin.

The cultivation of paddy during the dry season is called *mayin* cultivation. It is started according to locality from January to March and the crop is reaped from June to August. In the Pakôkku subdivision it is confined to the riverine tract and is carried on in tanks and depressions which have been filled by the flooded rivers during the preceding rains. Paddy fields are formed at the edges of these depressions, and are gradually extended as the water drys up. Water is baled from one field to another by means of *kus* and *kanwès*. A *ku* is a hollowed log shaped like an elongated canoe and fixed at one end to a pivot. The other end is free to dip into a pool of water specially dug for its reception. Pressure applied by the worker standing on the pivoted end causes the other end full of water to rise, and eventually to spill the water lifted with it. The *ku* is so arranged that the water will spill into channels which lead it on to the fields on which it is required. A *kanwè* is a triangular scoop of wicker work fitted with a long handle, and suspended at the junction of the handle with the scoop from a tripod of bamboos, erected over a pool of water. Water from the pool is shovelled by means of the *kanwè* to channels which in turn lead it on to the paddy fields. Sometimes *mayin* cultivation is carried on by means of well irrigation. The water is raised by means of a bucket suspended from a cross beam, which itself is fitted to an upright. The end of the cross beam away from the bucket is weighted, which device lessens the force necessary to raise the laden bucket. Human labour only is employed in all these three methods of irrigation, and the work involved is considerable. On the other hand if the water supply lasts, success is as certain as the cultivator chooses to make it As this kind of cultivation starts early in the year in the Pakôkku subdivision crops are never damaged by floods. Rice milled from *mayin* paddy is not considered to be so palatable as that milled from paddy grown in the rains, and sells at a lower price.

Monsoon paddy. All paddy grown in the rains is primarily dependant on rain for the water it requires, and if dependant on rain water and natural drainage from the surrounding country alone, it is called *mogaung* paddy. These natural supplies are sometimes supplemented by irrigation.

Mogaung paddy. *Mogaung* paddy cultivation is practised throughout the district and is the only method practised during the rains east of the Tangyidaung hills. In the Pakôkku and Yezagyo townships the bulk of the paddy land is situated in the riverine area. This land can only be worked with paddy if inundated by floods during July and August, and the final maturing of the crop even here is dependant entirely on rain in October, for no irrigation can be practised from the Chindwin or Irrawaddy. In the Myaing township paddy land is often situated below small tanks, which, once cultivation has started, may be of value during a break in the rains.

Irrigated paddy. The cultivation of paddy by means of canal irrigation is carried on only in the five townships west of the Tangyidaung range. Where the irrigation depends on perennial rivers or streams it is usually very successful and remunerative. The poorest results are obtained in Seikpyu, where small streams which carry water only after heavy rain are depended upon. In Pauk irrigation water is obtained from the Yaw and Kyaw rivers. The former contains sufficient water the year round to enable two crops of paddy to be raised annually, and the soil is so good that these two crops are obtained from the same land. The first crop is planted during March and is reaped from the end of June to the end of August. The land is then immediately ploughed to receive the second crop which is reaped at the end of December. The outturn of the second crop from land which has already given a first crop is poorer than the outturn of the first crop because the land has had no opportunity of recuperation and also because floods during the rains damage the irrigation channels. Land irrigated from the Kyaw yields one crop only, for though this river can be depended on for a constant supply of water during the rains, in the dry season very little water is found in it. In Seikpyu a very small area of twice cropped paddy land is found in the valley of the Kin stream, which flows into the Yaw. The bulk of the irrigated paddy land gives one crop only, and except that dependant on water from the Mwe and Kin streams in the west of the township, is very uncertain. In the three

western townships both irrigation and double cropping is practised.

Metho[d] of culti[-]vation.

Paddy is almost invariably sown in nurseries. When about a foot high the seedlings are plucked and tied in bundles and carted to the fields, where they are all hand planted by women. Broadcasting of seed is very rare and is practically only resorted to when the rains have been too poor to permit nurseries to be sown.

Failur[e] of crop[s].

Paddy cultivation except where reliable irrigation is available, is a very uncertain business in the townships west of the Pôndaung range. The soil of most of the paddy land is good and with seasonable and sufficient rain even fields classed as poor by the people will give astonishingly high and uniform outturns. The rainfall is so meagre and capricious that failure, especially in the headquarter subdivision, is too often the result. If the early rains are poor, nurseries cannot be planted. With no seedlings cultivation cannot be carried on even though at planting time there may be plenty of water in the fields. Success in *mogaung* paddy cultivation is more often obtained in Pauk than in the other four townships, but even in Pauk in the year 1907 as elsewhere east of the Pôndaung, practically the whole of the *mogaung* paddy land lay uncultivated. Irrigated paddy land in Pauk and both irrigated and *mogaung* land in the townships beyond the Pôndaung are probably as secure as in any part of Upper Burma.

Sub-varieti[es].

The sub-varieties of paddy are very numerous. Of *mayin* paddy the following are most common:—*Èmata*, *Saukyaik*, *Yenwè* and *Pyitto*. Of monsoon paddy the following are most common:—*Taungdeikpan*, *Kunwa*, *Paungpalaung*, *Ngayun*, *Sawbwa*, *Lônbo*, *Byat*, *Ywetlan* and *Gôkkyi*.

Ya lan[d].

The bulk of the agriculture of the district is practised on what is called by Burmans *ya* land, in which term is included all land on which paddy cannot be grown and land which is not alluvial. Good *ya*, composed of loam or silt or a combination of both is limited and is found only in the north-west of Myaing, in Pauk, and on the west of the Seikpyu township and beyond the Pôndaung. Most of the *ya* land of the district is made up mainly of sand. Its cultivation is very uncertain and crop failures are common.

Crops.

Crops on *ya* land vary with the soil. Maize (*zea mays*), jowar (*sorghum vulgare*), sesamum (*sesamum indicum*), and groundnut are the chief crops grown. The following table gives the areas by townships occupied by each of the first three of these. The figures for six of the townships

relate to the season 1906-07, while for Pauk and Seikpyu they relate to the succeeding year.

Township.	Jowar.	Sesamum.	Maize.
	Acres.	Acres.	Acres.
Pakôkku	26,021	18,377	3,652
Yezagyo	20,987	11,735	293
Myaing	60,310	32,543	3,413
Pauk	24,065	14,268	19,712
Seikpyu	13,670	7,684	3,983
Saw	......	330	6,000
Gangaw	... ..	910	4,000
Tilin	......	54	2,000
The District	145,033	85,901	43,053

aize.

Maize is the most remunerative of all *ya* crops grown. It is primarily grown for that part of it which in all countries but Burma is considered useless, that is the wrapper, called in Burmese *pet*, in which the cob is enveloped. This *pet* is in great demand especially in the delta districts for the outer covering of Burmese cheroots. Maize requires rich loam or loam mixed with silt, a reason why the bulk of the crop is found in the Pauk township where the best *ya* soils of the district occur. Seed is sown during July in rows, six or seven being placed in the ground at intervals of about eighteen inches. The crop is harvested during November when the cobs as they ripen are plucked from the stalks and spread in the sun for a few days to dry. The wrapper is then cut through at the base, carefully drawn off the cob, pressed flat and packed. The cutting and packing of *pet* requires skill and experts are usually employed. They are paid at the rate of one rupee for every ten viss (1 viss = 3·66 lbs.) of *pet* packed. An instrument called a *pet-hlè-gôn* is used. This consists of a flat stand of wood on which two sticks about thirty inches long are erected vertically. As each wrapper is drawn off its cob it is placed on the flat stand between the uprights and kept pressed tight down by the knee of the operator. Wrapper after wrapper is placed one above the other till a pile from eighteen inches to two feet high has accumulated. The pile is then securely tied together and is ready for market. Maize grain is sold on the cob by the basket. In the western townships it is often used for feeding cattle, but east of the Pôndaung it has for the last five years formed a

very important item in the food supply of the people. The year's production is available during November and the early part of December, a period at which supplies of food are at their lowest, as the paddy and jowar harvests occur much later. It is not relished as a food and never eaten by the fortunate possessor of good maize growing *yas*, who can always afford to buy paddy with the proceeds of his *pet*. The best *ya* land in Pauk produces not less than 60 viss of *pet* and a similar number of baskets of cobs to the acre. The price of *pet* varies with its quality, the average price throughout Pauk being Rs. 50 per 100 viss. The cultivation of maize in the three western townships all of which produce wrapper of excellent quality, is extending. It is said that the crop is an innovation since the annexation. This is probably true as regards the country west of the Pôndaung, but Yaw *pet* was famous at the time the late Mr. Stevenson wrote his dictionary, and has long been worked in Pauk and the north-west of Myaing. There is no doubt however that the area under this crop has in Pauk greatly extended since the annexation.

Jowar is the most extensively cultivated of all *ya* crops in the district, and provides food for both man and beast. West of the Pôndaung as the food of the people is rice, while grazing is plentiful at all seasons, jowar is not worked at all. The best time for sowing is during July. Seed is almost always broadcasted, but occasionally in Pauk it is sown in furrows. In the former case when the crop is about six inches high it is harrowed to thin it out. It is a long lived crop and reaping continues into February. The stalks are reaped about a foot from the ground, tied into bundles and stacked for a few days to dry. The ears are then pinched off and the grain threshed out. The stalks are securely stacked on platforms built on posts or in the branching forks of trees well out of the reach of cattle. These stalks, chopped up, make a valuable fodder, without which plough and draught cattle could not exist as such in the district. Jowar does best on loam, but even the poor *yas* of the uplands will produce fair outturns with seasonable rain. As the rainfall of the district is very capricious the crop is very liable to failure. On the poorest soils in Pauk it is often grown merely as a fodder crop, no grain being expected. In the same township it is also often grown as a second crop after early sesamum with the same object. It is never worked on the best *yas*, on which it merely expends its energy in shooting up fifteen to twenty feet high stalks on which little grain forms. While the Jowar.

grain is forming the crop has to be continuously protected from birds, whose depradations are incredible if not witnessed. Parrots especially cause much damage, breaking off whole ears with their strong beaks. Scare-crows and contrivances made of bamboo which whirl with the wind are placed all over the *yas*. Platforms are also erected on high posts on which watchers, usually children, armed with pellet bows sit all day scaring birds. Huge clappers of split bamboos fixed in remote corners of the *yas* are connected by long bamboo withes with these platforms, so that the watcher by pulling the withe can make his presence at least heard in every direction.

Jowar is attacked by a vegetable parasite known to the Burmans as *pwinbyu-bin*, a small white flowered plant (*striga lutea*), which does great damage. It lives on the roots of the jowar and effectively prevents the crop in any field in which it has obtained a footing, from coming to maturity. It has crept into the district from the south within the last ten or twelve years, and no means of eradicating it have yet been discovered. It attacks no other crop* and does not appear when sesamum or groundnut are worked in *yas*, in which when under jowar it is present. It is very prevalent and unfortunately is spreading.

Two varieties of jowar are worked in the district, one in which the grain is contained in a husk, called *kun-pyaung* and the other without a husk, called *san-pyaung*. The latter is almost entirely confined to the Yezagyo township, and is very little grown. It is unknown west of the Tangyidaung range. Its stalks like those of maize are practically useless as cattle fodder.

esa-um.

Sesamum is of two varieties, the early and the late. The former is almost entirely confined to the hilly country where the late variety is practically unknown, while on the uplands the bulk of this crop is of the late variety.

ate samum.

Late sesamum, called *hnangyi*, is broadcasted during September and is reaped during December. It does well on sandy soil provided it gets timely rain. Failures are common in the district owing to the irregularity of the rainfall. It is grown entirely for the oil obtained from the seed when pressed. The refuse after the oil has been extracted forms a nutritious food for cattle. But for its liability to failure the crop would pay well, for little is expended on seed and labour employed in its cultivation.

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* The Agricultural Department prescribe a careful rotation of crops.

There are many subvarieties of this crop. The following are the most common in this district:—*Gyolè-byauk* and *Thadunbyu*.

Early sesamum, called *hnanyin*, is broadcasted as soon as the early rains permit the *yas* to be ploughed. It is reaped in August and September It is worked on the poorest soils and also on the best. On both with seasonable rain it gives very handsome outturns averaging far higher than the outturns yielded by the late variety. On poor soils however it is very liable to failure, and easily succumbs to draught. In parts of Pauk it is regularly grown on paddy land being followed by paddy. This previous crop of early sesamum does not appear to affect the yield of the subsequent paddy crop in any way. It differs from *hnangyi* in two particulars. It can be worked on stiff clayey soil as well as on light soil, and it does not exhaust the soil so much as *hnangyi*, for whereas the early variety is grown year after year on the same plots, *hnangyi* can never be grown two years running on a plot. The subvarieties of *hnanyin* are very numerous. The following are most common:—*Thadunbyu*, *Gwa*, *Shatkale*, *Tayôk*, *Shat* and *Thidat*. Early sesamum

Early sesamum sells for a lower price than the late variety, because the oil yielded from it is inferior both in fragrance and in quantity than that obtained from an equal quantity of late sesamum.

Groundnut is a crop which has been introduced into the district within the last five years. It will grow only on light sandy soil and is to some extent draught resisting, and is therefore eminently suited to the uplands of the Pakôkku district. It is not grown at all in the three western townships. In the year 1906-07 the area occupied by this crop was 3,163 acres. The main difficulty to its introduction was the price of the seed at sowing time, which rose from one rupee a basket at harvest to Rs. 2-8-0 and Rs. 3 and even higher. The people were not sufficiently longsighted to buy when the crop was being gathered, and by the time they had made up their minds to buy it had practically all been exported from the neighbouring districts of Myingyan and Magwe where it was grown. This difficulty was removed by the Deputy Commissioner in 1908. Early during the year he bought up about 21,000 baskets of seed, which was distributed to the people, who were to repay in cash at reasonable rates after harvest. This action thoroughly established the crop in the district, and it is never likely to be relinquished Groundnut.

unless some extraordinary fall in the demand for it takes place.

The area estimated to be occupied by this crop in the season 1908-09 was just over 39,000 acres. Its cultivation entails a good deal of trouble and expense, but though grumbling on both scores is heard, prices have up to date repaid both. Seed can be sown as soon as the early rains permit. It is not an uncommon occurrence for no seed to be sown at all once a *ya* has been cultivated with groundnut. The nuts form under the surface of the ground and can never be totally grubbed up. Seed so left in the ground germinates as soon as the soil is moistened and all that is necessary is to loosen the upper surface by harrowing. Constant labour in weeding and loosening the surface soil is required to ensure a good crop. The latter is especially necessary. As the plants grow they throw out shoots, which again throw out smaller shoots along their length, and these latter burrow into the ground. On them under ground the nuts form. The surface soil must be constantly kept loose to enable this burrowing to take place. When the nuts are ripe, which occurs from October onwards, they have to be grubbed up out of the ground and plucked off the plant. This is a laborious business. Labour is usually hired. The surface soil round each plant is thumped with clubs which has the effect of loosening it. The plant can then be pulled up with the nuts hanging on to it. But many of the nuts still remain buried and are brought to the surface by a harrow being run over the soil, or are dug up by hand. Even after all this nuts still remain and as has been observed act as seed for the following year. The vines are stacked and used for fodder and are much relished by cattle. The crop ripening in October and November brings money into the district at a time when it is most needed. It finds a ready sale and is grown entirely for export.

Kaing cultivation.

In addition to the above detailed crops and methods of cultivation, a very important phase in the agriculture of the district is the cultivation of the innumerable islands in the Irrawaddy and Chindwin rivers, and of the adjacent main land called *kaing* cultivation. Both, during the rains, are inundated and cultivation cannot commence till the floods subside from about the end of October onwards. These lands are composed largely of silt, a soil, which when thoroughly well saturated, retains moisture for a very long time. The area within which inundation can occur, exclusive of land devoted to the growing of paddy, is approximately 70,000 acres. Agriculture in this riverine portion and in

the three western townships is the most secure and certain in the district.

Kaing crops.

Crops on alluvial land, *Kaing* crops as they are called, are very numerous, all pay well while some are much more valuable than others. The most valuable are tobacco and chillies, while the most extensively cultivated is a bean called *pè-gya*.

Tobac

Tobacco requires the very best silty soil. It is often grown on what appears to be pure sand. This sand is merely a surface covering under which will be found the necessary silt. Holes are dug in the upper surface connecting with the silt below and are filled with silt in which the plants are set. Seed is first sown in nurseries and the plants are set in rows at intervals from the middle of December onwards. Much care and trouble is expended on the plants as they grow. When about a foot high the top shoots are pinched off in order to stunt them. The leaves are restricted to eight or ten in all, others being pruned away in order that the whole strength and energy of the plant may be concentrated in the few leaves permitted to form. The leaves begin to ripen from the middle of March onwards, single leaves being plucked as they become ripe. The leaves are when plucked carefully sun-dried and are then ready for sale. As the harvesting of the crop continues well on into May, damage is often caused by early rain and strong winds which tear the leaves. Finally the stalks are pulled up by the roots. The leaves are sorted by size and quality and are separately packed. The stalks and roots are chopped and sold apart from the leaves. The crop is a very paying one, and as prices have lately ruled very high, the area under it is extending. It is mostly shipped to Lower Burma. The tobacco grown is all of the country variety but the small quantities of seed distributed by the Agricultural Department are eagerly sought after. Pakôkku grows more tobacco than any other district in Upper Burma, and ranks third among the tobacco growing districts of the province. In the season of 1906-07 the area under this crop was 6,030 acres of which nearly 5,500 acres were situated in the inundated areas.

Chillies

Chillies are another crop which requires good silty soil. Seed is sown in nurseries and the plants are set in rows. The crop ripens towards the end of March when the pods are plucked and sun-dried. The area under this crop was in 1906-07, 4,318 acres, practically all of which were situated in the inundated area.

Pè-gya

The main *kaing* crop grown is a bean called *pè-gya*.

Its cultivation entails little trouble or expense. It ripens about the middle of March when the pods are plucked and threshed, while the vines are stacked for cattle fodder. At certain stages of their growth these vines are said to be poisonous to cattle. There are two varieties of this bean, one white and the other a mottled pink colour. The bulk of the crop is exported. The beans are crushed for their oil, the refuse being converted into cattle food. It is said that the refuse of the white bean is also used for human food. *Pè-gya* in 1906-07 occupied 26,289 acres of the inundated area.

Other crops.

In addition to the above, beans of many varieties, a little gram, and wheat, onions, tubers, gourds, cucumbers, maize, sesamum, jowar, and groundnut are grown on alluvial land. All do well except groundnut. This crop owing either to the nature of the soil or the period of cultivation, which is necessarily later than on the mainland, forms nuts with very thick shells and small kernels when grown on inundated land. It consequently sells at a low price, and is now not much in favour among island cultivators.

The highest rises of the rivers take place during July and August, and if these are unusually low, much of the land which in normal years is cropped with *kaing* crops, is worked with jowar with excellent results. *Kaing* crops cannot be successfully grown without inundation.

Special crops.

The only crops in the district which require special methods of cultivation are onions, betel-vine and sugar cane. The first is important in the localities in which it is grown but these are few. Betel-vine and sugar cane occupy a very small area.

Onions.

Onions are grown to a small extent in the inundated area and are more extensively cultivated in the valley of the Yama stream and in the valley of the Yaw in the Pauk and Seikpyu townships. Early in the season they can sometimes be grown on inundated land without irrigation, but except in the actual bed of the Yaw river the crop is generally irrigated from wells. The varieties mainly worked are the Shan and Burmese red onions, both of which are grown from bulbs. The soil of onion plots is always very carefully top dressed. The plots are divided into small beds separated from each other by irrigation channels. The cost of cultivation is high, the main expense being the cost of the seed which at planting time is very high, owing to scarcity; for the cultivator realises as much of his crop at harvest as he can; and also owing to the shrinkage which

takes place in the bulbs between the time they are gathered and the time when they are required for planting.

Katta onion

In the Yama valley a variety called *katta* is worked from seed, which is first sown in nurseries, the seedlings being transplanted to the beds when about six inches high. The name is a corruption of the word Calcutta the variety having been introduced *viâ* the neighbouring Lower Chindwin district by natives of India. Onions are sometimes plucked and sold before the bulbs have fully formed, the whole plant including the tender leaves being eaten. In such a state they are termed *meiksa*.

Unirrigated onion

Onions are somewhat extensively worked without irrigation in the pure sand of the bed of the Yaw river. The plots are heavily manured, and the necessary moisture wells up from subsurface water by capillary attraction.

Betel-vine.

The whole area in the district occupied by betel-vine is restricted to 76 acres. The crop is only found in the Yezagyo township mostly in the neighbourhood of Ma-u village, where the gardens are situated round the Ma-u *in* or tank. The soil is a rich mould and is periodically replenished with mud obtained from the bed of the tank. The cultivation of the betel-vine is attended with a good deal of trouble and expense but is fairly remunerative. The normal yearly rent of gardens is Rs. 60 per acre. Gardens are usually of very small area, the recognised unit of measure coinciding with one-tenth of an acre.

Sugar cane.

Sugar cane occupied forty-six acres in 1906-07, all of which were situated in the bed of the Yama stream. The crop is grown from mature canes, which are buried lengthways in trenches, a plant shooting up from each joint. The variety grown is of a small size; is planted about June; and ripens about December, the canes being cut as purchasers appear.

Implements.

There are no agricultural implements peculiar to the district. The plough is seldom used and is confined to the inundated area. The soil is tilled with wooden harrows in which three, five or seven wooden teeth are fitted according to the nature of work to be done. The *ku* and *kanwè* both used for irrigation have been mentioned, as has also the *pet-hlè-gôn*, or board on which maize wrapper is packed. The *su-dôk-kwa* is in the nature of a long pitch fork and is used for packing thorn bushes into hedges. It is usually made of a bamboo of which one end is split for about eighteen inches. Into this split end a wedge is inserted to keep the split pieces apart, and the bamboo is bound below the wedge to prevent the split from extending. The only

instruments of which iron forms a part are the *dama* or domestic chopper found all over Burma, the reaping hook, the *ta-ywin* and the *pauk sein*. The former consists of a wooden handle about four feet long continued by an iron extremity shaped like a hoe but not bent at an angle to the handle. It is used for digging holes. The latter is a very rough kind of axe. The cultivator himself fashions all the wooden parts of his own implements, the iron parts being bought in the nearest market town or village.

Carts.

The carts used in the district are about eighteen inches narrower in width than those in use in most other districts. The people explain this fact by saying that the roads are narrow, but this is a poor explanation. The narrowness of the carts is probably due to the sandy nature of the surface of the country over which haulage entails appreciably greater effort than over firmer soil. Carts are of the usual Burmese pattern but are mostly fitted with spoked wheels, called *dauk-hlè*. These wheels are made throughout the district where carts are in use and sold for from Rs. 30 to Rs. 40 per pair. The cultivator generally makes the body of his cart himself.

Cattle.

Agricultural stock is adequate as the following table taken from the latest returns will show:—

Bulls and bullocks.	Cows.	Calves.	Buffaloes.		
			Male.	Female.	Calves.
98,340 ...	75,100	62,915	9,676	10,704	15,002.

Buffaloes are mainly confined to the three western townships of the district. A few are found in Pauk and the riverine villages, but the greater part of the district is quite unsuitable for these animals. East of the Pôndaung range plough and draught cattle are all stall fed mainly with chopped jowar stalks. Cows and young stock live on what they can get while grazing, which for at least six months of the year is very little.

Agricultural seasons.

The rainfall west of the Pôndaung being greater in volume and more evenly distributed than that prevailing east of that range, it follows that agricultural seasons in the three western townships do not necessarily agree with those experienced in the remainder of the district. An analysis of these seasons since the year 1893-94 reveals the fact that west of the Pôndaung there have been 8 good, 3 fair, 1 poor and 5 bad years. In the remainder of

the district there have been 5 good, 3 fair, 3 poor, and 6 bad years. The worst season on record since the annexation was that of 1907-08. The rains of 1907 were poor throughout the province. In the upland areas of the district very little land produced a crop.

Of the total area occupied for cultivation not more than one-half is cropped in any given year. Holdings vary with the nature of the land occupied. In good land they are small seldom exceeding five acres. The majority of *ya* holdings are large, for land cannot be continuously worked and frequent fallowing is necessary. This gives *ya* holdings a very ragged and untidy appearance, for though crops do not thrive, weeds and bushes mainly *sibin*, a species of wild plum, grow with great vigour.

The cultivated land of the district is made up of very good and very bad land. There is practically no medium between the two. Paddy land in Pauk and in the townships to the west is probably as good as any in Upper Burma. The best *ya* land in Pauk and the inundated land along the Chindwin and Irrawaddy could probably not be surpassed in fertility. The bulk of the land is however very unproductive, and the district from an agricultural point of view is a poor one.

Tenancies.

Tenant rates vary with the quality of the land rented. Except in the case of betel gardens or land rented for onion cultivation, in which case a dead rent in money is nearly always the rule, rents are generally paid in a share of the produce of the land rented. The best qualities of both paddy land and *ya* land rent at a one-half share of the produce: but for this high rate the landlord finds the seed grain and sometimes bears a small share in the expenses of cultivation. Poorer soils rent for one-third to one-fifth produce while the poorest rent for as little as one-tenth. Landlords are not exacting and tenants are as yet in no need of protection.

Mortgages.

Mortgages are common and are almost invariably of a usufructuary nature. No time within which redemption is to take place is specified, a mortgagor being allowed to redeem at any time after the expiry of three years from the date on which the mortgagee obtained possession.

Agricultural Advances.

Money is borrowed at the usual high rates of interest prevailing in Upper Burma. The common rate among Burman money lenders being 5 per cent. per month for ten months, at the end of which time if the debt is not repaid, the interest due is added to the capital. Government has done its full share lately in helping the

people. The amount advanced under the Agriculturists' Loans Act during the three years 1906-07 to 1908-09 being, respectively, Rs. 32,000, Rs. 64,055 and Rs. 85,180. The large amounts advanced in the last two years were advanced mainly with a view to introduce and establish the new crop, groundnut.

Co-operative Societies.

In May 1909 the Co-operative credit movement was started in the district, and a Central Bank established at Pakôkku town. Within the first year twenty-seven co-operative credit societies were affiliated to the central bank, which borrowed Rs. 16,880 from the public, and lent to these societies Rs. 22,920, made up of deposits and share subscriptions. The movement appears to be popular and will no doubt spread as it becomes understood.

Irrigation.

Irrigation in the district is carried on with water obtained from three sources, rivers and streams, tanks and wells.

Wells.

Well irrigation is mainly confined to land cropped with onions, betel-vine and sugar cane, though a small area of land worked with *mayin* paddy is irrigated by this means. The total area so irrigated is very limited, as the water is raised by manual labour only. So far as it goes well irrigation is very effective, for no one would trouble to dig a well unless certain of striking water at a reasonable depth.

Tanks.

Tank irrigation includes the irrigation of *mayin* paddy land and land worked with monsoon paddy. In the former case water is supplied to the land by manual labour, and such irrigation is very effective and certain, provided the tanks from which water is obtained have been filled by the preceding year's floods. During the year 1907 the floods of the Chindwin and Irrawaddy were much below their normal level, and in the succeeding year very little *mayin* land was worked. So far as monsoon paddy is concerned tank irrigation is not of much value. The tanks are shallow and dry up during the cold weather. They are useless to start cultivation if the early rains are poor, and the most that is expected of them is the tiding over of a break in the rains after the fields have been planted out.

Canals.

Irrigation by means of canals obtaining water from streams and rivers is practised in the five townships west of the Tangyidaung range. It is mainly found in Pauk and Seikpyu, and its effectiveness depends on the amount of water available in the streams tapped. Canals taking water from the Yaw, Kyaw and Saw are most secure. These canals are all private ones, dug and managed by the people themselves. The canal irrigated area of the district

is approximately 21,944 acres. Of this total 3,528 acres in the Seikpyu township is irrigated by small channels, mere drains, which tap streams in which water is only found for a few hours after rain. Land so irrigated is by no means secure. The rest of the irrigated area is fairly certainly protected. In the Pauk township, where irrigation is most fully developed and highly organised, it was found that in 1906-07 there were 45 distinct canal systems. Minor canals spring up and fall into disrepair and disuse annually. The canals are mere dykes some six to twelve feet wide, sometimes even narrower, the longest measuring only about five miles in total length. Of these, 17, deriving their water from the Yaw river, enable two crops of paddy to be grown yearly. The remaining 28, deriving water from the Yaw or the Kyaw, supply water for a single crop only. The single crop canals on the Yaw irrigate a *mayin* crop, while those on the Kyaw irrigate a monsoon crop of paddy. Many of these canals were in existence prior to the annexation. All require annual unsilting, and of those irrigating a *mayin* crop the portions which lie in the actual bed of the river require redigging annually. The canals are managed by those who own land irrigated by them, who are also responsible for the necessary labour. On each canal there is a *myaung-gaung* or headman, and one or two criers. These officials are elected from their number by those interested in the canal, who are called *myaung-thas*. The *gaung* allots tasks to the *myaung-thas*, which are proportioned to the area of land to be irrigated, possessed by each. On each canal there is a unit of measure of land, called a *det*, and a unit of measure of work, called a *ta*. These vary in each system. The *det* may be an area of land estimated to produce a certain outturn of paddy, or estimated to require a certain number of bundles of seedlings or of baskets of seed for its cultivation. Situation and quality of the land to be irrigated are taken into account so that the actual area of a *det* on a single system is not necessarily uniform. For each *det* one labourer is required, for the supply of whom the owner or owners of the land included in the *det* are responsible. Either an owner may personally labour, or the labourer required may be furnished by the *gaung* on payment of a fixed sum. In the case of a *det* owned by more than one man (and such ownership is common), the co-owners arrange among themselves for the provision of labour or for payment in its stead. Though theoretically one labourer is required for each *det*, in practice the number of owners who actually perform per-

sonal labour is usually sufficient for the work to be done, and these share among them the payments made for substitutes. The *gaung* and criers do no actual labour, their duties being confined to supervision. The criers communicate the orders of the *gaung* to the *myaung-thas* and call them out in case of breaches. Labour on canals which irrigate a double crop, commences early in January. Such canals have to be aligned for a considerable portion of their length in the actual bed of the river, for during the first period of irrigation the water is at its lowest. A channel is scooped out by means of harrows, in the teeth of which a piece of stout bamboo matting has been interlaced. The harrows are in fact for the time being large hoes, and are dragged by bullocks. That portion of the canal lying outside of the river bed is also unsilted. Each *myaung-tha* is responsible for the minor channels which actually lead the water from the canal on to his fields. By June the river has risen sufficiently to enable its water to enter the canals without the aid of the channels scooped in its bed. Throughout the period of irrigation labour is constantly required. Heavy floods cause breaches and silt up the canals. Repairs and unsilting which must be carried out as soon as possible, involve heavy work. Before its final rise, during April and May freshets come down the Yaw, obliterating the channels dug in its bed. If the water again falls these have to be redug. On canals irrigating a single monsoon crop labour is not so heavy, as the water enters directly from the river bank. In years of heavy flood canals and even the land they irrigate, which is usually situated near the river bank, are sometimes washed away. In spite of these accidents irrigation in Pauk is most effective and enables high outturns of paddy to be obtained.

CHAPTER V.

Forests and Minerals.

Forests; direct Irrawaddy drainage; Tangyidaung-Pôndaung belt; Pônnyadaung-Chin Hills belt; Pôndaung and Pônnyadaung forests; Chin Hills foot-hills forests; exploitation in Burmese times; present administration; nature of forest work; reserves; fire protection; unclassed forest land; exploitation; working plans; petty contractors; cutch; timber measuring; communications and buildings; revenue and expenditure; Minerals; petroleum; sandstone; other minerals.

orests. The forests of the district are found only to the west

of the Tangyidaung range and occur mainly on, and to the west of the Pôntaung range of hills. They increase in area, density and quality as the western edge of the district is approached. A general idea of forests and forest growth will be best obtained by considering both according to the drainage systems in which they are situated. The district naturally falls into three main divisions.

Direct Irra-waddy drainage

The direct Irrawaddy drainage extends from the district boundary on the Chindwin and Irrawaddy rivers westwards to the Tangyidaung hills and is entirely contained in the Pakôkku subdivision. This area falls in the dry zone proper and the country is generally of a flat nature. It is very sparsely covered with vegetation and only in the neighbourhood of the low hills which occur in and on the west of the area is this vegetation of such a nature that it can be styled forest growth. There is no evidence to show that this part of the district has, within the last two or three centuries, been covered with a heavy forest growth containing large-sized trees. Scanty vegetation of a poor quality has in all probability been one of its main characteristics for a longer period than that mentioned. Primarily no doubt poverty of soil and a low rainfall were responsible for such a state of affairs.

A population of which the density is nearly 150 to the square mile, the average density for the whole district being 60, has effectively prevented any improvement in the quality and quantity of the forest growth. More than one half of the total area is occupied for cultivation. The unoccupied portion supplies grazing for large numbers of cattle maintained by the people and also fuel. The demand for fuel is very heavy, for it is required not only for domestic purposes but also for the manufacture of jaggery, this latter being a very important industry which is concentrated mainly in the Pakôkku subdivision.

Of the trees actually found *Swèni* or *Setni* (undetermined) and *Dahat* (Tectona Hamiltonia) are the most common. Next in order of abundance come *Than* (Terminalia oliveri) and Cutch (Acacia Catechu). Other species found are *Tanaung* (Acacia lencophloca), *Eikmwe* (Lagerstrœmia flos regina), *Kan* (Carissa spinarum), *Kyenôk*, *Myauklaung* (Canthium didynum), *Thanatka* (Limonia acidisimma), *Pôksama*, and *Padauk* (Pterocarpus macrocarpus). Bamboos are absent except in the north-west of the area where the *Myinwa* (Dendrocalymus strictus) occurs, a much stunted and almost solid bamboo of small girth. In the poorest parts *cacti* are common.

The Tangyidaung-Pôndaung belt.

To the west of the area above described lies a portion of the district contained between the Tangyidaung on one side and on the other the Pôndaung continued south of the Yaw river by the Sinlèdaung and Budawdaung ranges. This area comprises the Pauk and Seikpyu townships and is drained by the Yaw river and its tributary the Kyaw. Here the forest area is much more extensive than in the direct Irrawaddy drainage, a fact for which a sparse population and the broken nature of the country are responsible. The jaggery industry is confined to parts of Seikpyu and is carried on to a much smaller extent than is the case in the headquarter subdivision. The area is still within the dry zone, but the rainfall is almost ten inches higher than the rainfall experienced to the east of the Tangyidaung. The country is hilly and rugged and intersected with deep ravines. The tree growth is essentially of the type known as "Indaing" in which *In* (dipterocarpus tuberculatus), *Ingyin* (pentacme suavis), *Thabut* (miliusa velutina), *Tè* (diospyros burmanica) and *Than* (terminalia oliveri) are the principal species. The following species are also found *Dahat* (tectona Hamiltonia), *Binga* (stephegyne parvifolia), *Lônbo* (Buchanania latifolia), *Kabaung* (strychnos nux-vomica), *Nabè* (Obina wodier), *Taukkyan* (terminalia tomentosa) and *Yôn* (anogeïssus acuminata). Teak (tectona grandis) is also found in this area. Forest growth varies in density, being poorest just south of the wide curve which the Yaw river makes in this neighbourhood. Along the Tangyidaung and its western slopes the forests are almost pure "Indaing" in nature, while on and about the base of the Pôndaung range the value of the forests is enhanced by the presence of a little teak, which is mainly found within the Kyaw and Pôntaung reserves. Bamboos, scarce on the east and found only in the bottoms, improve as the Pôndaung is approached. On the west of this area the *Myinwa* is often in the moister parts replaced by the *Thaik* (bambusa tulda), and the varieties known by the Burmans as the *Tinwa* and the *Wabo*. The forests to the west of the Kyaw stream approximate to the teak type, in which however the *Indaing* areas are extensive. Cutch (acacia catechu) and *Padauk* (pterocarpus macrocarpus) both valuable trees are found scattered throughout the forests of this part of the district.

Pôndaung-Chin Hills belt.

The third division of the district comprises the townships of Saw, Tilin and Gangaw and contains the forests situated in the vicinity of the headwaters of the Salin, Yaw, Maw and Myittha rivers. It is in this division that the most

valuable teak-bearing areas of the district are situated. The forests on the east of this division, that is, those which occur on the western slopes of the Pôndaung and of the Pônnyadaung ranges are of a different nature to those situated on the extreme west of the district along the base of the Chin Hills.

Pôndaung Pônnydaung forests

Practically the whole of the western slopes of the Pôntaung and Pônyataung ranges have been notified as Forest Reserves. The areas in the north, which are drained by the Myittha river, are the richest in teak. This tree grows more and more scarce as one proceeds south and in the Man and Sit reserves at the extreme south little or no teak is found. In the neighbourhood of the Yaw-Maw watershed which practically embraces the whole of the Tilin township, teak appears to have been extensively cut over in Burmese times for purposes of cultivation; large sized teak trees are nonexistent while areas of pure bamboos are common.

In what may be spoken of as true teak forests the principal associates with teak are *Taukkyan* (terminalia tomentoza), *Pyinkado* (Xylia dolabriformis) and *Zinbyun* (dillenia pentagyna). The absence of *Than* (terminalia oliveri) in all the better teak-bearing forests is most marked. The first two of these four trees are more common than teak.

The forests are characterised by the absence of all uniformity with regard to the distribution of the teak itself, so that it is impossible to say where the tree may occur, except that it is not generally found on exposed ridges. It often occurs pure on the rich alluvial soil of the bottoms succeeded by pure patches of *Taukkyan* or bamboo. Higher up the hill sides it will be generally found mixed with *Pyinkado*, but here the latter tree may form pure woods. A semi-*Indaing* growth containing a stunted bamboo is common especially on bluish grey slaty soils or shales. The teak is often found mixed with cutch and this latter tree may appear pure on newly formed deposits of silt. Thus in the typical teak forests of the district within the space of a few hundred yards several distinct types of forest may be met, which merge into one another in bewildering confusion. Another characteristic of these forests is the dense undergrowth found. This is formed mainly of *Paungthaung* (a species of strœbilanthes), a herb or small shrub from three to six feet high, which dries back annually and is said to flower once

in four years. Throughout the Gangaw township the *Paungthaung* was observed to flower in 1907-08. In the north of the district the elevation of the Pônyataung admits the appearance of various oil-bearing trees and oaks, and on the crest of this range pines (*pinus khasya*) are found. Other species found in association with teak are *Gwe* (spendias mangifera), *Didôk Letpan* (bombaxanceps), *Myaukshaw* (homalium tormentosum), *Shaw* (sterculia sp.), *Hnaw* (adina cordifolia) and *Panga* (terminalia tomentella).

Chin Hills foot-hills forests.

On the west of the Myittha and between that river and the western boundary of the district are situated stunted forests of the *Indaing* type which cover a series of low hills which jut out from the Chin Hills and are very much intersected by deep ravines. Further south and mainly in the Saw township the high Chin Hills descend abruptly into the valley without any intervening foot-hills and the *Indaing* forest above mentioned is not met with. On the west of the Saw township the district boundary in crossing the more prominent watersheds often ascends into pure pine forests situated three or four thousand feet above sea level. Characterised by very steep slopes and roaring torrents of crystal water the hills in this neighbourhood are clothed at their base with a moist type of teak forest, in which the *Kyathaung* bamboo (bambusa polymorpha) and the *Thanat* (cordia grandis) is conspicuous.

Exploitation in Burmese times.

Prior to the annexation little heed was paid to forests and forest produce. Two general rules were more or less acknowledged. The first was that teak was a Royal tree, the exploitation of which must be accompanied by payments to the Royal treasury. The second was that the spontaneous waste products of a village jurisdiction were free only to the inhabitants of the jurisdiction and enjoyment of them by outsiders could be obtained only by permission of the *thugyi*, or headman, which permission it was perforce necessary to purchase. The first of these two rules was the only one which interested the State, and this interest was confined to the realisation of payments. Preservation of the forests or their economic exploitation was a question which apparently was never thought of. The local use of teak in the localities in which it grows dates from time immemorial. Its extraction as an article of export from the district and as a source of revenue to the State appears to have commenced some fifteen or twenty years before the annexation. It has been ascertained that about the year 1870 a seven-year lease

of the Yaw drainage was arranged between King Mindôn Min and a Mr. Sutherland. The lessee, together with his brother, worked principally in the country drained by the Kyi, Chi and Kyauksit streams, all of them tributaries of the Yaw. This country practically coincides with the present Saw township. It is said he had eighty elephants, girdled teak trees at his pleasure, and paid a lump sum annually to the Crown. He appears to have fared badly as a large number of his elephants died. In 1879 the lease was transferred to two Moulmein traders Ma Sôn Gyi and U Tu. They commenced work in the valley of the Môn stream, now in the adjoining Minbu district, and extended their operations northwards to the Salin and Yaw drainages. Their timber was collected at Seikpyu on the Irrawaddy at the mouth of the Yaw river, where it was inspected by an official from Mandalay, who fixed the royalty. In the area from which teak was actually extracted, raids by Chins were of frequent occurrence, necessitating the arming of the working camps.

The earliest teak workings in the Myittha valley, corresponding to the present Gangaw township, also took place at the instigation of King Mindôn. In 1875 Maung O of Mandalay, an official of the Hlutdaw, was deputed to supervise the extraction of teak in the "taik" of Yaw kunhna-ywa. The *thugyi* of each of the seven *ywas* comprising the *taik* was ordered to supply a definite quantity of timber at Kalewa on the Chindwin river. Those who actually undertook the work were paid, but it is probable that the money for these payments was subscribed by the people of the *taik*. It is estimated that about 4,000 logs were brought to Kalewa in the two years during which this system was in force. The largest contributor was the Gangaw taik-thugyi, father of Myoôk Maung Po Hlaing, lately Township Officer of Gangaw. His services were rewarded with presents, among which was included an elephant. In the year 1882 Messrs. The Bombay-Burma Trading Corporation commenced work in these forests. The earliest and most persistent of their employees was Sin-ôk Maung Ta Pu. This Corporation's work extended southwards into the Tilin-myo, and constitutes the earliest extraction of timber from the Maw drainage. Timber in large quantities was extracted but during the annexation years owing to the disturbed state of the country work was temporarily abandoned.

The preparation of the dye called Cutch by boiling the

chipped sap wood of the cutch tree (*acacia catechu*) was also carried on in the Saw township. This industry, with Laungshe as its chief centre in this district seems to have been established some considerable time before the annexation. Transport difficulties were overcome by the utilization of bullocks, which carried the manufactured cutch in packs a distance of 70 or 80 miles to Sinbyugyun, a port on the Irrawaddy in the Minbu district. It does not appear that royalty was ever levied on cutch in Burmese times.

Present administration.

The administrative unit in which the forests of the district are situated is known as the Yaw Forest division. The whole of the Pakôkku district is contained in this division, which also includes parts of the Pakôkku Hill Tracts and of the Lower Chindwin district. Forest conservancy in the division commenced on the 28th of November 1887, when Mr. L. A. W. Rind was appointed the first Deputy Conservator. For the first two years after the formation of the division the district was in such a disturbed state that it was considered unsafe for a European Officer to wander about the forests unaccompanied by a large escort. As a suitable escort was not usually available the Forest Officer contented himself with accompanying the various expeditions which were despatched with the object of opening up the Yaw country. Little in the way of forest work could be done under such conditions as the line of march of these expeditions lay for the most part along valleys. As the country settled down the Forest Officer's attention was first concentrated on determining his best forest areas by inspection, and on ascertaining their value by means of rough valuation surveys. Eventually the division was split up into ranges and its management is carried on by the following staff. One Deputy Conservator is in charge of the whole division. He is assisted by an Assistant Conservator, who during the working season from about November till the end of May is in immediate charge of the Gangaw (forest) subdivision. During the rains this officer's headquarters are transferred to Pakôkku, where he is available for general duty. The division is subdivided into six ranges each in charge of a subordinate Forest Officer. The North and South Gangaw ranges make up the Gangaw (forest) subdivision and cover the area included in the Gangaw township. The Pauk, Saw and Seikpyu ranges each cover areas identical with those contained in the townships from which they are named. The Myaing range embraces the whole of the Pakôkku subdivision.

The subordinate forest establishment is made up as follows:—

Rank.	Establishment.		
	Permanent.	Temporary.	Total.
Rangers	5	...	5
Deputy Rangers	7	7	14
Foresters	4	1	5
Forest Guards	29	...	29
Total ...	45	8	53
Clerks ...	10	1	11

It is asserted that the subordinate field establishment as above detailed is not sufficiently numerous to carry out the work now being prescribed under the schemes which are being introduced. Special Gazetted officers are deputed as occasion arises for Forest Settlement duty. During the timber measuring season special officers are also deputed to the headquarters of the division to assist the divisional staff in measuring timber.

The work carried on by the Forest Department may be roughly classified into two categories, (1) the preservation of the forests and forest growth of the district, and (2) its economic exploitation. In the first category may be included the determination of forest areas for notification as reserved forests and the protection of these reserves from fire and from illicit exploitation. In the latter the main duties are the preparation of plans for the economic felling of trees, tree-girdling, the collection of State dues and the supervision of the extraction of forest produce by authorised people. Natur of fore work.

Insufficient knowledge of the country, the unsettled state of the district for the first few years after the annexation and the paucity of trained officers capable of carrying out such work are some of the reasons responsible for the fact that the first preliminary notifications of areas in the district as reserved forests were not published till January 1891. A beginning was made with the Laungdaung and Kunze reserves in that month. Other areas have been notified from time to time. At the end of the year 1909 Reser

the finally reserved forests of the district covered an area of 915 square miles or roughly 15 per cent. of the entire district area. The following is a list of the reserved forests of the division with their respective areas :—

Name of Reserve.	Area in Square miles.	Name of Reserve.	Area in Square miles.
Kunze	103	Brought forward ...	824
Laungdaung ...	93	Dandi	5
Pindaung ...	33	Hnaw	2
Man	37	Kyi	3
Kyaw	131	Ôndwè	3
Kyauksit ...	111	Sinzwè	5
Thôngyauk ...	5	Peinnè	31
Mozo	22	Pôndaung ...	18
To	25	Kyaing	9
Myintha ...	32	Nwamadaung ...	18
Saw (I and II) ...	18	Mahin	17
Sithni	74	Kyauksindaung ...	6
Kyutha ...	8	Yindaingdaung ...	2
Sit	112	Tangyidaung ...	22
Budaung ...	20		
Carried over ...	824	Total ...	965

In addition to the above areas which have been finally reserved, the reservation of another 187 square miles of the district is contemplated. Some 50 square miles of the total reserved area in the above table is situated outside the boundaries of the Pakôkku district. The absence of reliable maps and a desire to interfere as little as possible with rights which, till the advent of British rule, had been enjoyed with practically no restrictions by the people have led to the establishment of a somewhat larger number of reserves than is perhaps consistent with an ideal economic management. The same reasons added to a desire on the part of the Forest Department to obtain reserves as free of rights and right holders as possible are also responsible for the tortuous boundary lines of the existing reserves. Those are matters which will be gradually improved as their disadvantages become obtrusively apparent.

Reservation has until lately been carried out with a view to preserve and exploit to the best possible advantage the more valuable trees. Of recent years attention has been turned to the establishment of fuel reserves and final notifi-

cation of three such areas mainly situated in the Pakôkku subdivision was made in 1909.

Fire protection in the division was first attempted in 1896 when a beginning was made on the Man reserve. This attempt, though persisted in for several years, was not successful, mainly on account of the numerous footpaths which traverse the reserve in every direction. The idea of protecting the whole reserve has now been abandoned, but experimental protection of a small area is still carried on. In 1898 the protection of the Laungdaung reserve was attempted and four years later the system was extended to the Myintha, Mozo and To reserves. In these areas fire protection has been carried out yearly since its initiation In 1909 the area of the fire protected forests of the division was 160 square miles. Fire [protection]

All forest land outside reserves is included in the expression "unclassed forest land." In the absence of any universally accepted definition of the same term "forest land" no very accurate estimate of the area of the unclassed forest land of the district can be arrived at. Land, to which the description forest land, used in its colloquial sense can be applied, practically does not exist east of the Tangyidaung range. West of that range the area of the district unoccupied for cultivation is approximately 3,460 square miles. In this is included about 900 square miles of reserves. The balance or roughly 2,500 square miles probably represents the area of the unclassed forest land of the district. Unclassed forest land.

In this division as in most other parts of Burma teak is the main produce extracted from the forests. It is also the most valuable. Messrs. The Bombay Burma Trading Corporation are the chief and practically the only extractors. Their business is carried on under leases made with the Local Government. Two distinct working areas, the Yaw and the Myittha drainages have always necessarily been recognised in the district. Timber felled in the former area finds an exit from the district at Seikpyu on the Irrawaddy, while the Myittha timber is floated down that river to Kalewa on the Chindwin. Exploitation.

At the time of the annexation the Yaw licensee's agreement with the late King, mentioned above, having lapsed, all timber, which had not actually been extracted from the forests covered by that license, became the property of Government. This timber was till the year 1892 extracted by Government agency and annually sold by public auction at Seikpyu. In the year 1892 The Bombay

Burma Trading Corporation purchased all that still remained in the forests at the rate of Rs. 30 per ton, and extraction by Government agency ceased. Meanwhile on the 18th August 1888 leases between the same Corporation and the Local Government had been signed, by which the Corporation were permitted to work teak in the forests of the Yaw drainage and in what was termed the Chindwin drainage. In the latter area was included the Myittha drainage of this division. Operations under the Yaw lease were confined entirely to the areas comprised in the Yaw Forest division. Under the Yaw lease girdling of teak trees was carried out for the lessees by the Forest Department for the first time in 1890 in which season the Kyaw forests yielded 742 trees. It was then reported that all the Yaw forests had been heavily worked in previous years and that girdlings had been carried out in a most reckless manner. Of the 7,000 dead trees said to be standing in these forests all of which had been girdled prior to the annexation, it was found that a large proportion consisted of mere poles. Under the Chindwin lease about 25,000 trees were girdled in 1888, but it is thought that these operations did not extend so far south as the Myittha forests of the Yaw division. Departmental girdling of teak in the Myittha forests commenced in the season of 1889-90 and continued till 1894, during which period the forests on the Pônnyadaung slopes east of the Myittha river yielded 18,729 trees. Of late years 1,000 trees have been girdled annually by the Forest Department in the Yaw forests, while in the Myittha forests an average of 1,896 trees has been yearly girdled. This latter represents the contribution of the forests of this division to the timber to which, under the Chindwin lease, the lessees have been entitled. Recently the Corporation has obtained new leases for a period of fifteen years.

Working Plans.

Till recently girdling work has been carried out in a very haphazard manner, the only object kept in view being the supply of timber due under the leases issued. It is now realised that there is little chance in the near future of any elaborate working plans being drawn up. An attempt however is being made to draw up rough working plans to enable girdling operations to be carried out with more system than has hitherto been the case. Such a plan was drawn up in the season of 1905-07 for one of the four working circles into which the forests of the division have for the purposes of the scheme been divided. At present want of reliable maps is preventing the preparation of these rough working plans in the other three circles.

Petty contractors.

Apart from the Bombay Burma Trading Corporation, forest produce in the division is also extracted by petty contractors, who work under permits issued by the Divisional Forest Officer, on which royalty is always prepaid. The business of these contractors is confined mainly to unreserved timbers, fuel and bamboos. The great distances at which the forests of the division are situated from the Irrawaddy and Chindwin rivers prevents much business of this nature, but it is nevertheless increasing gradually.

Cutch.

A not unimportant product of the forests which lie along the extreme western edge of the district is a substance utilized for dyeing and tanning purposes commonly known as cutch. It is obtained by boiling down chips of the sap wood of the cutch trees (*acacia catechu*). In 1889 it was reported that the Yaw division was rich in cutch trees. The Man reserve appears to have been taken up solely on account of the trees of this species contained in it. The cutch boiling industry as has been stated above was established in the Saw township some considerable time before the annexation, but it is probable that the numbers engaged in it were few and no appreciable effect had been made on the cutch forests. The industry has increased considerably under our rule. Originally licenses for the manufacture of cutch were issued on payment, and in 1889 the first year in which the attention of the Forest Department was turned to this subject, fees for such licenses amounted to Rs. 9,640. This method of taxing the industry has for some years been discontinued and licenses for the manufacture of cutch are now issued free on application by the Divisional Forest Officer, the royalty on cutch being collected in the shape of an export duty at the ports from which it leaves Burma. The number of licenses issued annually in the division during the past five years has averaged 461. Up to date the only trees utilised have been those found in unreserved forests. It has not yet been found necessary to open up any of the reserves to this industry.

Timber measuring.

Pakôkku is the measuring station for all timber extracted by the Bombay Burma Trading Corporation from the Chindwin forests. Approximately 40,000 logs are measured annually for the purpose of appraising the duty due on them. This duty is charged at a rate fixed in the lease on the ton. After measurement the logs are formed into rafts and then floated down the Irrawaddy to the Corporation's depôts in Rangoon.

Communications and buildings.

It is only of recent years that the subject of rest-houses and communications in the forests has received much attention. At present there are nineteen rest-houses built and maintained by the Forest Department, most of which are in Saw and Gangaw townships. These will be added to as funds become available. Teak, which is the main produce extracted, can only leave the forest by floating streams. Good cart roads in the forests are therefore not very necessary. Efforts are being made to improve communications by means of bridle paths, of which about 100 miles have already been cleared and are maintained by the Forest Department. This mileage is being yearly added to, the work proceeding in accordance with a sanctioned quinquennial scheme. The forests of the district are not easy of access from district headquarters. The nearest timber reserves are those on the eastern slopes of the Pôndaung and are at least 70 miles from Pakôkku town. Most of the reserves and the greater part of the unclassed forest land is situated beyond that range. Difficulties presented by the distance at which they are situated from headquarters might be overcome but the two parallel ranges of the Pôndaung and Pônnyadaung hills will always make them difficult of access.

Revenue and expenditure.

The receipts and expenditure under the head "Forests" for the years 1901-02 to 1909-10, as shown in the accounts of the division, will be found in Volume B. The following is a summary of the average annual receipts and expenditure of the division for the five years 1904-05 to 1908-09:—

Budget head.	By Government agency.	By purchaser.	Total.
REVENUE.	Rs.	Rs.	Rs.
Timber	917	1,60,614	1,61,531
Firewood ...	...	1,287	1,287
Bamboos and canes	...	512	512
Grazing and fodder	...	3	3
Other minor produce ...	...	989	989
Drift and confiscated produce ...	...	8,376	8,376
Miscellaneous	...	3,456	3,456
Total receipts ...	917	1,75,237	1,76,154

Expenditure.	Rs.
Timber	1,110
Drift and confiscated produce	3,162
Stores, tools and plant	2,823
Communications and buildings	8,023
Improvements and extensions of forests	20,553
Miscellaneous	769
Establishment.	
Salaries	35,404
Travelling allowances	5,804
Contingencies	1,674
Total expenditure ...	79,322

From the above table it would appear that the average annual surplus of revenue over expenditure of the division is Rs. 96,832. The bulk of the receipts under the head "timber" consist of payments by the Bombay Burma Trading Corporation.

The yearly figures of the revenue of the division in Volume B show considerable variations from year to year. As a matter of fact the revenue realised in any one year depends absolutely on the number of logs presented by the lessees for measurement The lessees no doubt attempt to distribute the outturn of the whole timber to which under their lease they are entitled, equally over the years during which the lease is current. The actual outturn however which reaches the measuring station in any given year depends very much on the character of the rainy season of the year, during which period the logs are actually floated down the various creeks and streams to the main river. If the rains are timely and heavy most of the logs placed in these streams will reach the main river during the year. If the monsoon is a poor one many logs, owing to insufficient water

in these streams, must remain in the forests till the following year. It is usually the case that during the last year or two of the currency of a lease outturns exceed those of previous years. This is natural as exceptional efforts are made by the lessees to present every available log for measurement within the period of the currency of their lease. After the expiry of that period the terms of the new lease, if any be issued, invariably provide for higher rates of duty than have previously been in force, and apply to all logs presented for measurement, irrespective of the year in which they were felled.

Minerals. The mineral wealth of the district is as yet an unknown factor. Attention so far has only been directed to the earth oil, or petroleum, which undoubtedly exists in various parts of the district.

Petroleum. The mining of petroleum was carried on by Burmans before the annexation in the neighbourhood of Yenangyat, a small village on the right bank of the Irrawaddy about twenty miles below Pakôkku town. The industry appears to have been started in the year 1220 B.E. (A.D. 1858). The methods employed for obtaining oil were primitive. Wells were sunk to depths at which oil was found and the oil was brought to the surface in buckets and cans. A certain number of these wells were the property of the Crown, while others belonged to private individuals. Since the annexation oil mining has been taken up by European companies. The first in the field were Messrs. Finlay Fleming of Rangoon, to whom a five-year lease to mine oil from the royal wells at Yenangyat was granted by the Deputy Commissioner of Pagan in the year 1886. Subsequently licenses for prospecting and mining purposes were granted to these pioneers and to other Companies from time to time, and the industry developed considerably. Three companies, the Burma Oil Company, the Rangoon Oil Company and the Minbu Oil Company have been established at Yenangyat for several years. Oil is also to a small extent mined by "twinzas" or their representatives, who still adhere to the primitive well and bucket system. The big Oil Companies all employ the latest scientific methods. These have been introduced from America and mining operations are carried out by specially imported American oil-drillers. Iron pipes are sunk till the oil-bearing strata is reached. The oil, which under ground is subject to great pressure flows up these pipes as soon as it is tapped; when the oil at any particular depth is exhausted the boring is continued through the original pipe till fresh

oil bearing sands are met with, or till on account of the great depth reached, it has to be abandoned. A certain amount of the oil obtained is refined at Yenangyat, but the bulk of it is conveyed to Rangoon in specially constructed steamers or by the Burma Oil Company's pipe line. The oil wells at Yenangyat are all situated on the eastern slope of the Taungyidaung range, a single ridge, which rises almost sheer from the Irrawaddy at this point. It is said that the oil supply of the Yenangyat field is giving out, and this assertion appears to be corroborated by statistics of production. In 1896, by which time the industry had become established, the estimated production of the field was 2,117,728 gallons. In 1903, the year of greatest production 22,665,518 gallons were produced. In 1908 the production had sunk to 6,472,545 gallons. New fields in the district are being opened up. For the last few years boring operations have been progressing on the same range of hills some fifteen miles north of Yenangyat near the village of Sabe. Recently they have been started about twenty miles north of Sabe in the Myaing township still on the same range, and also at the north end of the Shinmadaung hills.

Sandstone.

Sandstone is quarried in Taung-u village at the north end of the Shinmadaung. It is used mainly in the construction of pagodas and their ornaments, coping stones and parapets for wells, and to some extent by the Public Works Department for flooring purposes. In 1908, the year of greatest production, 8,853 tons are said to have been quarried.

Other miner[als].

A little lime is burnt in the district but the industry is unimportant. Laterite and gravel are quarried as required by the Public Works Department or by the Pakôkku Municipality. Clay is extracted for burning bricks or for making pottery. Salt is found in almost all townships of the district, but the total yearly output for the whole district does not on an average exceed 500 maunds. Jade was discovered in the Saw township in 1908 but of such poor quality that it is doubtful if it can be profitably worked. Gold is washed in the Bahon stream near Chaungzôngyi village in the Myaing township. The amount yearly produced is very small. In 1903, a record year, it is reported that the production was three ounces. Iron was in Burmese times worked at Thanbogyi village in Myaing and at Wetthet village in Tilin. This industry is now quite extinct. It is said in the former village that the duty charged by the Forest Department on the fuel required, killed it.

CHAPTER VI.

Occupations and Trade.

Agriculture; toddy-boiling; carting; cattle-breeding; pony-breeding; goats and pigs; groundnut; harvesters; boatmen; sawyers and masons; cutch-boiling; forest products; hides; oil-fields; hawkers; weaving; umbrellas; cart wheels; baskets and mats; blacksmiths; pottery; sandstone; *kyaung-zayes*; unskilled labour; occupations in Pakôkku town; boat-building; brass work; oil and paddy milling; trade; exports.

Agriculture.

The primary occupation of the majority of the people according to the census returns of 1901 is agriculture, and the numbers engaged in that pursuit in each township of the district is shown in the following table taken from the same source:—

Township or town.	Total population.	Number who returned agriculture as a primary occupation.
Pakôkku town ...	19,456	498
Pakôkku township ...	48,888	28,232
Yezagyo township ...	87,797	48,145
Myaing township ...	71,976	42,422
Pauk township ...	41,021	32,167
Seikpyu township ...	31,100	24,250
Saw township ...	19,868	16,907
Gangaw	24,200	19,276
Tilin township ...	12,183	9,617
The District ...	356,489	221,494

In addition, 3,485 people mainly in the townships of the headquarter subdivision returned agriculture as a subsidiary occupation.

The percentage of people engaged in agriculture in the district, exclusive of the town of Pakôkku, is 65. If the three western townships are taken alone this percentage rises to 81. The bulk of the non-agricultural population is gathered in the headquarter subdivision. Agriculture however over the greater part of the district is of so precarious a nature that it is largely combined with other occupations.

Of these the principal in the Pakôkku subdivision is toddy boiling, or the conversion of the unfermented juice of the toddy tree which exists in large numbers, into a coarse sugar called by Burmans *tanyet*. In those parts where the trees are numerous, this occupation exceeds agriculture in importance, for its returns are more certain than those of agriculture. Toddy boiling

In the Pakôkku, Yezagyo and Myaing townships many of those who call themselves agriculturists are actually mainly dependent on toddy-boiling for a livelihood. Interest in the industry is not confined to the actual producer of the *tanyet*, or jaggery, but is widely diffused. The trees are freely sold and mortgaged and in many parts are of greater value than the land on which they grow. Owners, though usually unable to climb the trees in their possession, find no difficulty in renting them. Originally no doubt ownership in trees and in the land on which they grow was identical, but this is generally not the case now. Climbers in most cases do not own the trees they climb. Many villagers do a petty trade in jaggery, buying daily from the climbers and when sufficient has been collected to fill a cart selling to the big dealers in the export towns on the river.

Trees are of two sexes both of which yield juice. The male produces a catkin like blossom, which shoots out from a long sheath called a *kaing*. The female is known by its clusters of fruit. The latter somewhat resembles the fruit of the cocoanut tree in outward appearance, consisting of an outer green fibrous shell within which the seed is contained. This seed however bears no resemblance to the hard cocoanut. Climbing commences during February when the male trees only are tapped. At this time the blossom is about to burst from the sheath. A single tree bears four or five *kaings*. Of these sometimes three but usually two are tapped at this period. The sheath is first tightly bound throughout its length with fibre. Each lap of the binding ends in a knot. The tip of the *kaing* from which the fruit is protruding is sliced off and a collecting pot called *Myu-o* is tied under it, into which the juice flows. A little lime or a few small pieces of the bark of the *Thit-ya* tree (shorea obtusa) are placed in each pot to retard fermentation. The pots are collected morning and evening, being replaced by others. The tapped *kaing* requires slicing at each climbing to induce the flow of the juice. This period of tapping is called the *nu-yit-yo*, or period during which juice flows from the immature blossom. It lasts till the beginning of April, by which time the

blossoms have burst forth from all *kaings* not yet tapped, and fruit has formed on the female trees. The tapping of trees of both sexes is now carried on. This is called *hnyat-tha-yaung-yo*. The blossom of the male is squeezed with a squeezer, *hnayt*, which is made of two long pieces of wood placed one on top of the other, and connected at one end by a hinge. After it has been thoroughly squeezed it is bound with fibre as was the *kaing*. Slicing the end causes juice to exude. The fruit of the female is bruised and similarly sliced. During May this tapping comes to an end and the fruit of the female which by this time is ripe is tapped by the same process as that adopted in the case of the immature fruit. This is called *thi-yin-yo*. Tapping operations are practically over by the end of August. More juice flows during the second and third periods of tapping than during the first. The yield of a tree varies with its sex and situation. Females yield more than males, and trees situated in hollows or on paddy land where the soil is moist yield more than those growing on the high lying dry lands. The yield from a single tree during the year varies from five to fifteen viss (1 viss equals 3·66 lbs.) of jaggery. Trees must be climbed daily, as if the tapped portion is not regularly sliced the juice ceases to flow; and climbing twice a day is also necessary as the juice, if left for more than about twelve hours, ferments. The collected juice is boiled every morning which process congeals it. It is then "whipped" with a big spoon and allowed to cool, and finally rolled with the hand into small lumps. The evening's collection if not at once boiled must be left to simmer over a fire all night. Boiling is usually managed by the women and children of the climber. Before tapping actually commences the climber gets his apparatus ready. This consists of ladders, pots and fuel. The climber makes his own ladders from bamboos. A short ladder from eight to ten feet long called a *yin-zwè* is required for each tree climbed. These are securely tied along the tree trunks just under the crown on which the leaves form. One long ladder about thirty feet long called a *yin-daung*, is also required, by means of which the climber reaches the *yin-zwè* from the ground. This he carries from tree to tree, no light work, tying it to the tree at two or three intervals as he climbs. Collecting pots or *myu-os* are made in many villages in the district and cost about one rupee per hundred. Fuel which is required in large quantities is in the riverine villages mostly bought from people who collect drift wood in the river. Inland it is cut where it can be found and consists mainly of small

branches and coppice shoots seldom exceeding three inches in thickness. While climbing the tapper carries in his waist belt a special knife called a *tan-hli-da* for slicing the *kaings* and fruit. This is contained in a wooden sheath terminating in a hook-shaped projection. To the sheath are also attached three or four iron hooks. On these the empty and full pots are hooked, for the climber requires both hands free. An average of about forty trees are climbed during each period, and during the season one full time tapper taps about eighty trees. Some climb as many as sixty trees a day. The toddy boiler's life is a hard one, and full of possibilities of danger. A man falling from a toddy tree is either killed or is crippled for life. Accidents however are not very common. The average amount of jaggery obtained by one boiler during the year is about 900 viss which at Rs. 13 per 100 viss, the average price obtained, is worth Rs. 117. As the tapper is usually a tenant, about one-third of the yield goes in rent. Trees are rented at varying rents. A dead rent in money or kind is common in parts of Yezagyo, but the usual custom is for the landlord to receive one-third of the produce, that is the jaggery produced every third day is handed over to him. In return for this he usually gives the tenant a small advance of from five to ten rupees at the commencement of the season. The industry has long been established in the district. Old men of sixty and seventy years of age, on being questioned, will answer that they have heard their grandfathers talk of *bobabaing*, or ancestral toddy trees.

Cart

The occupation most universally engaged in after the two fore-going is probably carting. Jaggery, maize wrapper, groundnut, in the riverine area agricultural produce, and in the western townships cutch, a dye manufactured from the *sha-bin* (accacia catechu) are all exported from the district by river, and must be transported to the export towns by carts. The bulk of the maize wrapper is produced in Pauk and the townships west of the Pôndaung, beyond which range there are very few carts. Cutch is produced mainly along the Chin Hills border, that from Tilin and Gangaw coming into Pakôkku, while from the Saw township it finds an outlet at Sinbyugyun in the Minbu district. Large quantities of rice and piece-goods are imported into the district. All these imports are distributed over the district by carts.

Catt
bree

Large herds of cattle exist in the uplands, but cattle are not systematically bred for export. Grazing is so poor and limited that cattle in excess of home require-

ments cannot be got into condition for export to Lower Burma, the only possible market. At the end of 1907 a good many bullocks were exported but these were mainly the actual plough cattle of cultivators, who were forced into this action by the almost entire absence of harvest that year. The sale of cows and calves however adds to the income of the people.

Ponies. Pony-breeding is carried on all over the district. In many of the Yezagyo villages even Arab, Waler and Country-bred sires are found. Little heed is paid to any quality in the animals bred from except the power of reproduction. In spite of this some fine animals are produced, of which a few have made their mark in the racing world. Exorbitant prices, the result of racing, are demanded in the neighbourhood of Pakôkku town, but ponies are available at reasonable figures in the district.

Goats and Pigs. Goats are bred for sale in many of the Seikpyu villages, and pigs are also reared in every township east of the Pôntaung. They seem to be especially prevalent in Pauk.

Groundnut. The new crop, groundnut, has not only added to the agricultural income of the district, but has introduced a new means of earning at semi-agricultural income, for much labour is required to grub the nuts out of the ground.

Harvesters. Many find employment in reaping the bean crop or in plucking chillies in the inundated tracts, while others go to Lower Burma where they find work as harvesters.

Boatmen. In the riverine villages many find employment as boatmen. A number are engaged by the Bombay Burma Trading Corporation, whose head rafting depôt is situated at Kunywa, five miles above Pakôkku town, to take teak rafts down the Irrawaddy to Rangoon.

Sawyers and Masons. A number of sawyers and masons exist in the headquarter subdivision, who earn their living mainly outside the district.

Cutch boiling. Cutch boiling, by which a brown dye extensively used for dyeing ropes, nets and sails is produced, is an important industry along the western border of the district. It is also carried on to a limited extent in Pauk and the north-west of Myaing. Cutch trees are found in large numbers all over the uplands, but scarcity of water prohibits this industry in the drier parts of the district.

Forest products. A little charcoal is burnt in the neighbourhood of Pakôkku town. Fuel and grass are also cut near Pakôkku and Myitchi where they find a ready sale. The bark of the *Thanatka* tree (Limonia acidissima) which

furnishes the chief cosmetic used by Burmese women is collected and exported. Bees-wax, *pwè-nyet* and *thitsi*, resinous exudations from trees, are collected for export in the western townships, where also the felling of teak and other timber is carried on by the Bombay Burma Trading Corporation and smaller contractors. Nearer the river the fruit of the tamarind tree, and even of the *Zi-bin* (Zizyphus-jujuba), a species of wild plum, is gathered for export.

Hide

The people of Thedaw at the south end of the Shinmadaung and of the neighbouring villages are largely interested in hides. During the cold weather months the men wander over the district buying up hides which are in turn sold to the brokers in Pakôkku town for export to Europe.

Oil-fi

The Yenangyat oil-fields give employment to about 800 men. New fields are being opened out in other parts of the district which will require increased labour.

Haw

In several of the Pakôkku villages many of the men wander over the district and even over neighbouring districts hawking petty bazaar goods. Much of the betel-vine leaf produced in Yezagyo is distributed in this way, the hawkers carrying their stock in trade in baskets slung from a bamboo carried on the shoulder.

Wea

Weaving of coarse cotton cloth from imported yarn for home consumption is universal throughout the district. Near Pakôkku town and in many villages in Yezagyo weaving in execution of orders given by traders is a very common occupation. The cloth made is a cotton *saung*, or strip about fifteen feet long and twenty inches wide. The prevailing colour is white with a red stripe, but alternate stripes of red and yellow are also common. A woman can weave one *saung* in a day, but this is an abnormal outturn. In Tilin and Gangaw the famous Yaw *pasos* are woven partly of cotton and partly of silk.

Um-brell shoe etc.

Burmese umbrellas, shoes and water buckets are all made in the Yezagyo township.

Cart whee

The village of Myotha near Myaing formerly had a reputation for cart-making. Spoked cart wheels of teak or *padauk* wood are now however made in many villages.

Bask and mats

Ta-gauk-pas, or the baskets which throughout Burma to a very large extent supply the place of boxes, are made in the Ku circle of the Pakôkku township. They are woven from the outer shiny skin of the stem of the toddy

palm leaf. Baskets for packing jaggery and tobacco for export, each of a distinct size and shape, are woven from strips of bamboos in many riverine villages. Mats are also woven from the same material in the north-west of Myaing where bamboo jungle is found.

Black-smiths. In north and south Bingan villages near Myaing the people are mostly blacksmiths, who make *da* blades of the various patterns in common use in the district, from hoop iron bought in Pakôkku town.

Pottery. Pottery is carried on in several villages of the Pakôkku subdivision, but has nowhere reached the artistic stage met with in Shwebo and Sagaing. It is confined to the production of water and cooking pots, and the pots used for collecting toddy juice.

Sand-stone. At Taung-u village at the north end of the Shinmadaung sandstone is quarried, and fashioned into images of Buddha, and figures of *nats* and fabulous animals which are the common adornment of pagodas. It is also much used for cattle troughs, flooring and the coping stones of wells and such like purposes. A good deal is exported.

Kyaung-zayes. In the north of Myaing are numbers of men called *kyaung-zayes* or clerks employed in monasteries. Their occupation is the copying of sacred writings on to palm leaves. The leaves used are obtained from the *Pe-bin* (corypha umbraculifera). They are cut into strips about fifteen inches long by three wide. The writing, perhaps inscribing would be a better word, is effected by means of a thick steel needle, with which the letters are cut on the surface of the leaf. The leaf is then smeared with a rag dipped in earth oil, which has the effect of making the writing stand out clearly. These men during the dry weather months wander all over Burma, going so far afield as Rangoon. They are hired by *pôngyis* and by people desirous of having manuscripts copied, by the latter chiefly as a work of merit to stock a monastic library. While actually engaged in copying work they usually live in the monastery for which their manuscript is intended and are fed by the monks or others who employ them. Their work is paid for at the rate of 11 annas and 3 pies per folio, or *inga*. An *inga* consists of twelve leaves on both side of which from ten to twelve lines of writing are inscribed. Leaves are supplied by those who hire them. Ordinarily it takes a man two days to finish one *inga*. The curious rate of payment 11 annas 3 pies is the equivalent of the Burmese *kunhna-mu*, or seven-tenths of a tickal, or *kyat*. The *kyat* was, and still is,

the Burmese weight unit of silver, and is divided into ten *mus*. Since the introduction of coins *kyat* and *mu* have become the equivalent of a rupee and a two-anna piece.

The majority of the occupations mentioned above are either combined with agriculture or toddy-boiling, or with each other. It will be seen that the manufactures of the district are few, and outside Pakôkku town are not of such a nature as to require great skill in their execution.

In Pakôkku town. In Pakôkku town oil pressing, rice milling, silk weaving, brass work and boat-building are carried on, while occupations auxiliary to trade such as shop-keeping and loading of steamers are numerous.

Boat-building. The town was until recently noted for its boat-building. The industry is an old established one, and still continues, but is declining. The two chief kinds of boats built are the *laung-go*, or cargo boat, and the *sadaw*, a small boat meant principally for carrying passengers. The *laung-go* varies in length from five *lans*, or thirty feet, to nine *lans*, or fifty-four feet. It is a massively built boat, of which the bow and stem are made to stand well out of the water and look impressive. To get this effect the centre timbers are first laid down and by singeing the inner side of the wood the ends are gradually forced up to the required height. On this foundation the boat is built up. The stern rises much higher than the bow, and on it an elevated platform is erected, which serves as a bridge for the steersman. The bottom of the boat is rounded and there is no keel. The largest size *laung-gos*, when fully laden, draw about eight feet of water, and their carrying capacity is about 3,000 baskets of paddy, while the 5-*lan laung-go* carries only 400 baskets. The former take five months to build, the latter can be completed in two months. *Sadaws* are the small round-bottomed boats, not dug-outs, so commonly seen in riverine villages all over Burma. Their length varies from fifteen to thirty feet, and they can float in almost any depth of water. The industry is carried on throughout the year but slackens off during the cold weather months. Boats are built by saw-pit owners and are always made of teak. There are only four owners who go in for building on a large scale. Numerous smaller owners carry on the business spasmodically, laying down a boat or two when the necessary capital is forthcoming. The owner supplies all material, such as timber, iron nails, etc. The work of building is given out on contract to *sayas* or master builders, of whom there are about twenty of the first class in the

town. These latter employ their own carpenters who are drawn from all over the district. The largest size *laung-go* costs roughly Rs. 2,700 to build. The smallest size costs about Rs. 400. The selling price is approximately the equivalent in rupees of the number of baskets of paddy which a boat can carry, thus a 9-*lan laung-go* sells for Rs. 3,000, and a 5-*lan* boat for Rs. 450. The cost of building has increased since the annexation chiefly because of the rise in the price of teak. Saw-pit owners usually build on borrowed capital, paying interest at from Rs. 1-12 to Rs. 2 per cent. when the money is borrowed from chetties, and from Rs. 3 to Rs. 5 when borrowed from Burmans. Boats are seldom built to order. Saw-pit owners build them at their own risk and await purchasers. Sales of the large cargo boats are most frequent during the rains, and are made through brokers, who charge one and one-half per cent. commission. The trade in the largest size boats was quite brisk till about six years ago, some ten to fifteen boats being sold annually. There is no demand for such boats now. A 7-*lan* boat with a carrying capacity of about 1,200 baskets and costing about Rs. 1,000 to build is the largest that can now be sold. The cost of running the largest boats is very high and this accounts for their unpopularity. A 9-*lan* boat requires eighteen men to manage it, a 7-*lan* boat only six men, while the 5-*lan* size can be managed by three men. The big *laung-go* is being supplanted by the *tôn-kin*, a sharp stemmed usually clinker built boat. Such a boat with a carrying capacity of 2,000 baskets can be managed by five men. Pakôkku builders are prepared to build *tôn-kin* pattern boats, but these boats can be efficiently turned out in Lower Burma. The demand for *sadaws* which are mainly used by people living along the river bank and in the islands, and which can be built in ten days, is still regular. These boats are propelled against the strongest current with paddles. *Laung-gos* with their full complement of men can hardly be moved against the current by means of oars. They are obliged to float down stream with the current and await a favourable breeze to enable them to sail up stream.

Brass work. I the Kandaw and Myit-kaingquarters brass work, another old established industry, is carried on. The articles made are mainly of small size, and include the *mi-o*, or Burmese equivalent of a flat iron, bells for hanging on the trappings of bullocks, bells for hanging on pagodas, fittings for looms, betel or rather lime boxes, and small images of Buddha. The big Burmese bells known as *kaung-laung* are also made.

Scrap brass is mainly used. It is customary for brass workers to receive brass from merchants, which is fashioned according to order. The finished articles are then taken over by the merchants at rates determined beforehand. The smaller articles are paid for by count and the larger by weight. All the articles made except betel boxes are moulded. The latter are made of flat sheets beaten to the required thickness, shaped and then soldered. They are then subjected to heat in chatties buried under ground which process causes changes in the colours of the various alloys of brass used, and neat inlaid patterns are produced. The brass industry is not a very flourishing one and profits are less than they were owing to the rise in the price of brass.

Mills. The crushing of sesamum seed for its oil is largely carried on in the Sôn-gôn quarter on the west of the town. The mills in which this is done are of the ordinary Burmese pattern fashioned from a hollowed tree trunk and worked by a single bullock. Large quantities of paddy imported down the Chindwin are milled into rice all over the town, mainly in Burmese hand mills or by the universal foot pounder. There is one steam rice-mill.

A steam groundnut crushing mill was projected in connection with the Co-operative Credit movement, but the project fell through. A mill for this purpose is however in process of construction near Kywédè village about a mile from the Civil station.

Near this village are also three petroleum refineries, two of which have been in existence for some years. Another exists at Kyakat village in the Yezagyo township. All these are owned by Burmans, who complain of irregularity in the supply of the crude oil, which is entirely controlled by the big companies at Yenangyat.

Trad The trade of the district is considerable and is concentrated mainly in Pakôkku town: Ma-u, Yezagyo, Mye-daw and Pakanngè in the Yezagyo township, and Myitche below Pakôkku being minor centres. Pakôkku town contains a large number of traders and brokers, a few chetties and representatives of a few Rangoon firms. Exports largely exceed imports, and both reach and leave the district by the Irrawaddy and Chindwin rivers. Imports consist of food grain, mainly paddy down the Chindwin, salt, *ngapi*, and articles from Europe such as enamelled ware which by now have become a necessity in most villages in Burma.

Expor Exports include jaggery, maize wrapper, groundnut, agricultural produce from the riverine area, the fruit of the

tamarind tree, cutch from the west of the district, hides and teak from Pauk and western townships.

The following tables give an idea of the quantities of the main exports by steamers of the Irrawaddy Flotilla Company for the last three years :—

Year.	Jaggery.	Maize wrapper.	Tobacco.	Chillies.
	Tons.	Tons.	Tons.	Tons.
1907 ...	8,737	1,368	251	231
1908 ...	8,001	1,190	253	403
1909 ...	6,434	1,007	558	296

These figures apply only to exports which pass through Pakôkku town. A considerable quantity of jaggery produced in the district finds an outlet at Myitche and is taken over the river to Nyaung-u where it is shipped on to steamers, while much of it leaves the district by country boats.

The quantities of groundnut exported by steamers of the same company have been as follows. The figures have been compiled by combining those for the last two quarters of a calendar year with the figures for the first two quarters of the following year, and thus they practically relate to the agricultural year :—

Season.	Export of groundnut in tons.
1907-08	1,399
1908-09	5,808
1909-10	4,540

CHAPTER VII.

MEANS OF COMMUNICATION.

Travelling and transport ; roads ; main roads ; proposed roads ; steamer communication ; ferries ; postal communication ; telegraphic communication ; rest-houses ; camping grounds.

Travelling and Transport.

Travelling and transport in the district is dependent almost entirely on roads. There are no railways, the nearest rail head being situated at Myingyan on the

opposite bank of the Irrawaddy. It is very unlikely that railway communication will be introduced into the district in the near future. At present there is nothing, either from a trade point of view or for strategical or administrative reasons, to justify the construction of a railway line. Moreover the fact that the district lies wholly to the west of the Chindwin and Irrawaddy, while the nearest existing lines at Myingyan and Mônywa are both situated to the east of those rivers, is an additional excuse for delaying the introduction of railway communication in the district till for one or other of the reasons indicated it is fully justified. Steamer communication is confined to the Chindwin and Irrawaddy rivers. A steamer has ascended the Myittha as far as Gangaw, but this river is only navigable by steamers when in high flood, and the depth of its water even during the rains varies at such short intervals, that regular steamer communication on this river could never be established. The Irrawaddy, Chindwin and Myittha are the only three rivers in the district navigable by country boats.

East of the Pôndaung range travelling, except in the riverine portion of the district, is easy throughout the year. In the uplands the soil is so sandy that communication by road can be interrupted only by streams coming down in flood, and these run dry in a few hours. In fact over most of this part of the district the only obstacles to the passage of carts and ponies in any direction would be presented by the stout hedges with which the country is intersected, and which serve as holding boundaries of land occupied for cultivation. In the riverine portion travelling by land is almost impossible during six months of the year, owing to inundation and cultivation. West of Pôndaung, as the country is hilly and made up mainly of forest, travelling is more difficult. Cart roads are restricted to the few main roads constructed and maintained by Government. Village roads are no more than foot-paths passable only by ponies or on foot. There are very few carts in the three western townships, and away from the Government roads coolie or bullock transport is mainly employed. During the monsoon heavy rain and land slips are apt to cause interruptions even on the main roads.

Those roads, which are actually maintained, are maintained either from Provincial or Imperial funds under the direction of the Public Works Department, or by the District Fund under the control of the Deputy Commissioner. In addition there are numerous village roads, which are not really maintained at all, and are kept open merely Roads

by constant use. These for portions of their length often pass through land occupied for cultivation, and are consequently during the cultivating season liable to interruption.

The only metalled road outside Municipal limits is a length of about two miles, which connects the Civil Station with the upper steamer ghât. The total mileage of cart road actually maintained is 717 miles, of which 398 miles are in charge of the Public Works Department. The remaining 319 miles consist of District Fund roads. Expenditure on roads during the five years ending 1908-09 has amounted to Rs. 7,48,631, of which Rs. 7,13,149 has been spent by the Public Works Department and Rs. 35,482 by the District Fund. The difference in the expenditure per mile of the two departments is accounted for by the fact that the Public Works Department in addition to maintaining them actually constructs roads, whereas the efforts of the District Fund have hitherto been confined mainly to the improvement of existing village roads. In the uplands, to which area District Fund roads are chiefly confined, there is little to choose between the roads of the two departments. Roads in these parts are little more than tracks from 50 to 100 feet wide, which are kept clear of jungle growth and on which a certain amount of top dressing and draining is done. Those on which there is much traffic, are furrowed by deep ruts caused by cart wheels. On the whole the roads of the district are adequate for its requirements. Better ones could only be constructed and maintained at prohibitive expenditure, for road metal is not obtainable locally.

Main roads.

The two main roads of the district are the Pakôkku-Gangaw, and the Seikpyu-Saw roads. Both are in charge of the Public Works Department. The former was constructed in the early days of the annexation to open up the Yaw country and also as a line of communication for the southern column of the Chin Lushai Expeditionary Force. It runs due west from Pakôkku town for a distance of 46 miles to Pauk, the headquarters of the subdivision of that name. From Pauk it runs north-west to Tilin, a distance of 50 miles, and then northwards through Gangaw to Kan for another 70 miles. At Kan it again turns west and runs for another 11 miles to Yeshin, where it joins the road leading to Haka in the Chin Hills. In the 10 miles before Pauk is reached this road crosses the Yaw river twice. Beyond Pauk the Pôndaung and Pônnyadaung ranges are both crossed, while from Tilin to Kan the road more or less follows the valley of the Maw and Myittha

rivers. There is a considerable traffic on the road, but it is no longer used as a line of communication with the Chin Hills. The Saw-Seikpyu road is 72 miles long and very considerably shortens the journey betweeen Saw and the headquarters of the district, for Seikpyu is on the Irrawaddy and is a port of call for the daily ferry steamers of the Irrawaddy Flotilla Company. It was constructed during the years 1904, 1905, and has an administrative rather than a trade value. It opens up direct communication with Kanpetlet, the headquarters of the Pakôkku Chin Hills, which is situated 12 miles to the west of Saw. It has little value as a trade route. For about 30 miles of its length it passes through hilly and uninhabited country, and its starting point Seikpyu has never possessed any great importance as an export town. A road connecting Saw with Sinbyugyun, a few miles lower down the Irrawaddy than Seikpyu and in the Minbu district, would have had more value for trade purposes, for it is along this line that exports from Saw have always found and still find an outlet. Before the formation of Pakôkku Hill Tracts into a separate charge and the transfer of its headquarters from Mindat-Sakan to Kanpetlet, these tracts were connected with Pauk and so with the district headquarters by the Pauk-Yawdwin road, which is still kept up but is of little importance now, as Yawdwin is no longer the headquarters of a township.

The quinquennial road programme of the district contains proposals for the construction of four main roads. These are—(1) the continuation of the existing Gangaw-Tilin road southwards through Yawdwin to Saw and Laungshe, a distance of 80 miles along the foot of the Chin Hills; (2) a road taking off from the present Gangaw-Tilin road at Mawlè and running through the Ônhnauk valley and again joining the existing main road at Kyin, a distance of about 35 miles; (3) a road from Mawlè running due east to the village of Kahe on the Lower Chindwin border, a distance of 40 miles; and (4) a continuation of the existing Pakôkku-Myitche road through Yenangyat to Seikpyu, a distance of 27 miles. Of these the Mawlè-Kahe road appears to be the one most needed. It would open up the upper Kyaw valley, which at present is quite shut in by hills, and if continued to Kin-e village in the Lower Chindwin district, it would shorten the distance between Gangaw and Pakôkku by about 40 miles and would avoid the double crossing of the Yaw river near Pauk. The construction of this road presents considerable

Propo[sed] roads.

difficulties, for both the Pôndaung and the Pônnyadaung ranges, averaging in this neighbourhood 3,000 feet, would be crossed at right angles.

Steamer communication. The steamers of the Irrawaddy Flotilla Company are mainly responsible for connecting the district with the outer world. Two mail steamers of this Company on their upward and two on their downward journey between Rangoon and Mandalay call weekly at Pakôkku. Two cargo steamers up and two down also call weekly at the town. In addition to this service of main line steamers the Company also maintains a service of mail and cargo steamers up the Chindwin river. One mail steamer runs weekly from Pakôkku up this river to Kindat and in the open season on to Homalin, while smaller boats constantly ply between Pakôkku and Mônywa town bringing down large quantities of agricultural produce from the latter district for transhipment at Pakôkku to the main line boats for Rangoon. Daily communication for six days of the week with the railway at Myingyan for Pakôkku and Seikpyu is also maintained by means of small steamers of this Company. Government steamers on their upward and downward passages between Rangoon and Mandalay also call at the town. The Burma Oil Company maintains a number of steamers for the transport of oil from Yenangyat, but the bulk of the Yenangyat oil is transported to Yenangyaung by a pipe line, which will eventually be extended to Syriam near Rangoon.

Ferries. Ferries are established at various points on the Chindwin and Irrawaddy rivers and keep up local communication between the Pakôkku and Myingyan districts and between the main land and the Alè-gyaw island. Licenses for these ferries are sold yearly by public auction and the sale proceeds are credited to the District and Municipal funds of the districts concerned. The Public Works Department maintains five ferries on the Pakôkku-Gangaw road over the Maw and Myittha rivers, and one on Seikpyu-Saw road over the Saw stream. Ferries on the former road at the two points at which it crosses the Yaw river near Pauk would be a great convenience. Efficient ones could only be established at a considerable cost estimated in the road programme of the district at one lakh of rupees. The headman of Thanbya-aing village provides two or three boats at the more difficult of the two crossings, by means of which, provided floods are not very high, even carts can be crossed. During high floods traffic is completely suspended for days at a time. The crossing of this river in the rains is often attended by great danger. In Novem-

ber 1908 one of the ferry boats with six men in it was swept away and eventually dashed to pieces some 7 or 8 miles down stream, five of the six occupants being drowned.

The district is well provided with postal communication. A head post office is situated in the Civil Station and there are branch or sub-offices in the town and at each township headquarters. Rural postmen deliver letters in villages. All the post offices of the district pay ordinary money orders and most of them transact telegraphic money order business as well. Mails leave and arrive at Pakôkku for and from the outer world daily by the ferry steamers of the Irrawaddy Flotilla Company, which connect with the railway at Myingyan. Mandalay is reached by the mail route in twenty-four hours, eight of which are consumed at Thazi junction in waiting for the up mail train. A letter reaches Rangoon from Pakôkku in twenty-six hours, and London in twenty-two days. There is a daily mail both ways between Pakôkku and Pauk, and between Pakôkku and the other post offices of the district mails leave and arrive twice weekly.

There are telegraphic offices at Pakôkku town, Yenangyat, Yezagyo, Pauk, Seikpyu, Saw and Gangaw. All except the office in the town are combined with post offices. All receive foreign telegrams for despatch. Telegraphic communication with places beyond the district is carrried on through Mandalay either *viâ* Nyaung-u in Myingyan, which is connected with this district by a cable under the Irrawaddy, or *viâ* Haka, Falam and Fort White in the Chin Hills and so down the Chindwin river.

Rest-houses are maintained throughout the district by the Public Works Department and by the District Fund. The former department maintains in all twenty-six rest-houses, all of which are furnished and provided with crockery and glass. Each is in charge of a durwan. The type of rest-house built latterly by the department is quite a high class one, built throughout of wood. Twenty-nine rest-houses are maintained by the District Fund. These are of a much inferior type to those maintained by the Public Works. Many are old and in a very dilapidated condition, and none are fully furnished. The Forest Department maintains nineteen rest-houses in the neighbourhood of the reserved forests. These, however, are of not much use to the general public. Away from the main roads travellers must carry tents or be satisfied with the shelter provided by "zayats" or open sheds to be found in most villages.

Camping grounds which have been deliberately formed, such as are found in most Indian villages, do not exist in

the district. Burmans appear never to think of planting trees for purposes of shade. Good shade trees in a Burman village are generally found in the beds or on the bunds of tanks and are rarely so situated that tents can be pitched under them. The best place for pitching tents in a Burman village is usually the village monastery. It is certainly the cleanest and best swept.

CHAPTER VIII.

FAMINE.

Pakôkku is one of those districts, which under the Famine Code have been classed as districts in which famine is likely to occur. The district has been analysed and divided up into tracts, those portions of it which are considered secure against famine being differentiated from the portions considered insecure. As a result of this analysis about 618 square miles of the district have been classed as secure, 3,444 square miles have been classed as partially secure and the remaining 2,148 square miles as insecure. A programme of works to be put in hand in case of famine has been drawn up. The secure areas comprise the inundated part of the district along the Irrawaddy and Chindwin rivers, the actual valley of the Yaw river in Pauk, and the western portion of the Saw township. The greater part of the Pakôkku subdivision and the Seikpyu township are from an agricultural point of view as poor as any part of the dry zone of Upper Burma. Indifferent harvests and even actual failure of crops over large areas of the uplands are common. It is very doubtful whether even in the most favourable years sufficient agricultural produce is raised in these parts of the district to support the inhabitants contained in them. Large imports of rice are yearly made for distribution over the four townships mentioned. Even in Burmese times conditions were much the same and food to a considerable extent was imported. If in a bad agricultural year these supplies from outside were cut off famine would very probably ensue. It does not seem probable that local crop failure alone would cause famine. The first of the so-called famines in Burma after the annexation occurred in 1891. Some Rs. 20,000 was expended in relief works, which took the shape of repairing the Pakôkku-Pauk and Pakôkku-Yezagyo roads. In addition a sum of

Rs. 4,000 was distributed as agricultural advances. The harvest of 1896-97 was so poor that famine conditions prevailed in the districts of Myingyan, Meiktila and Yamèthin and it was found necessary to open relief works in those districts. No such measures were found necessary in Pakôkku, though it is on record that the season was bad all over the headquarter subdivision. No doubt some of the Pakôkku people found their way to the relief works in Myingyan, but the number could not have been considerable. Again the two poor seasons of 1905-06 and 1906-07 were followed in 1907-08 by what was probably the worst season experienced for many years. In the uplands of the Pakôkku subdivision and the Seikpyu township practically no crops at all were reaped. Yet the only measure which the authorities found it necessary to adopt to help the people was remission of taxation. The *thathameda* demands for the years 1896-97 and 1897-98, which was also a bad year, were about Rs. 80,000 below the demand for a normal year. In 1907-08 the demand was reduced by rather more than a lakh and a half of rupees. Its collection was also postponed from January to March, a provision which is still in force and which is much appreciated by the people, who trust to their toddy palms rather than to the land for the wherewithal to meet this tax. In December 1907 many went temporarily to Lower Burma to the colonies in the delta, which have from time to time been formed by emigrants from their villages. A number of plough cattle were also sold. There was however no semblance of famine. The people of the uplands possess a wonderful capacity for weathering bad harvests. Their great mainstay is the jaggery industry. The yield of toddy trees, though affected to some extent by poor rains, is not nearly so dependant on the monsoon as are ordinary field crops. Without this industry to fall back on there is no doubt that the townships of the Pakôkku subdivision could not support their present population. The fact that maize is cultivated to a considerable extent in the adjoining township of Pauk is fortunate. This crop ripens from October onwards and so renders a supply of food available just at a time when food stocks are at their lowest and before the main paddy harvest is reaped and imports of paddy arrive. Maize has undoubtedly played an important part in the food supply of the people east of the Tangyidaung and in Seikpyu during the last few years. In the Pauk, Saw and Gangaw townships harvests are more secure than is the case further east. In the two latter townships paddy is the main crop

worked and as the land is fertile in favourable seasons more is produced than is needed for the local year's consumption. Rice and paddy are imported into parts of the Tilin township from Gangaw. The culturable area of Tilin is small but fairly fertile while the population is small and the rainfall as heavy and certain as in the adjoining townships of Saw and Gangaw. The Tilin township is probably secure from famine and as large portions of it are covered with forest growth it is probable that the people could in times of scarcity find food in jungle plants. The experience of the past would justify the belief that there is little chance of serious famine occurring in the district. It is fortunate that the most precarious parts are those from which the Irrawaddy is most easily reached and from which emigration to Lower Burma could most easily take place.

CHAPTER IX.

General Administration.

Formation of the district; district officers; village-tracts; criminal justice; civil justice; military police; civil police; registration; Public Works administration.

Formation of the district. The manner in which the territory which now forms the Pakôkku district was administered in Burmese times has been described in Chapter II. At the annexation it was thought that all this tract of country formed part of the charges of the Burmese *Wuns* of Pagan and Myingyan, and consequently it was at first attempted to administer it as parts of the two districts, the headquarters of which were situated respectively at those two places. This arrangement was unfortunate and resulted in an almost entire absence of administration for the first two years after the annexation in the areas situated on the right banks of the Chindwin and Irrawaddy rivers. As a matter of fact the jurisdiction of the Myingyan *Wun* was bounded on the west by the Irrawaddy and no part of the present Pakôkku district had ever been subordinate to him. The jurisdiction of the Pagan *Wun* did in Burmese times extend across the river but included only a few villages of the present Pakôkku and Seikpyu townships. The formation of the Pagan and Myingyan districts was notified in Notification No. 155 printed at page 384 of Part I of the *Burma Gazette* of 1886. In the former district was included the township of Pakôkku. The latter district included the Pakangyi subdivision which itself was made up of the three townships of Pakangyi, Lingadaw and

Myaing. The township of Pakôkku was a very extensive and vague area which stretched from approximately the north boundary of the present Pakôkku township southwards down the river to Myitche. Below that place to the district border the country between the Tangyidaung hills and the Irrawaddy was administered directly from Pagan and was included in the township of that name. Westwards the Pakôkku township appears to have extended to the Chin Hills and included the whole of the Yaw country which is now divided between the townships of Pauk, Saw, Tilin and Gangaw. By Judicial Department Notification No. 205 of the 27th July 1887, this Pakôkku township was converted into a subdivision of the Pagan district to the charge of which an Assistant Commissioner was appointed. General Department Notification No. 25 of the 27th January 1888 transferred the Myaing township of the Pakangyi subdivision of the Myingyan district to the Pakôkku subdivision. Notification No. 27 transferred circles which had hitherto been included in the Pagan township to Myaing, while Notification No. 29 again notified the new Pakôkku subdivision. Notification No. 201 of the 21st July 1888 transferred to the Pakôkku subdivision the remaining area on the right bank of the Irrawaddy which up to that time had been administered directly from Pagan, and Notification No. 203 of the same date rearranged the existing districts of Myingyan and Pagan into two new districts of Myingyan and Pakôkku. The dividing line between the two old districts had run east and west, that between the two new districts was formed by the Irrawaddy and ran more or less north and south. The headquarters of the new district of Pakôkku were located at the town of Pakôkku, which had as early as December 1887 been gazetted a Municipal town. The internal divisions of the district were as follows :—

District.	Subdivision.	Township.
Pakôkku	Pakôkku ...	Pakôkku. Myaing.
	Pakangyi ...	Pakangyi. Lingadaw.
	Yaw ...	Pauk. Tilin. Laungshe. Yaw. Saw. Minywa-Myintha. Gangaw.

The next important change in administrative units was made in September 1889 (General Department Notification No. 262 of 11th September) when the unwieldy Yaw Subdivision was split up into two new subdivisions of North Yaw with headquarters at Gangaw comprising the two townships of Tilin and Kun-hna-ywa (a corruption of Kuhnit-ywa); and South Yaw with headquarters at Pauk, which contained the townships of Pauk, Yaw *cum* Saw and Laungshe. Minor changes during the year 1889 were the formation of the Kun-hna-ywa township out of the original Minywa-Myintha-Gangaw township, a readjustment of various villages in the several townships on the extreme west of the district, and the transfer of the headquarters of Pakôkku subdivision to Myitche. Small areas were also transferred from the Pakangyi subdivision and the Tilin township to the Sagaing and Upper Chindwin districts respectively. In January 1890 (General Department Notification No. 23 of 30th January) the headquarters of the Pakangyi subdivision and township, which had up to date been located at Pakangyi, were transferred to Yezagyo, while in June of the same year (General Department Notification No. 140) the headquarters of the Pakôkku subdivision were transferred back to Pakôkku. During the same month (General Department Notifications Nos. 143 to 146) the South Yaw subdivision was formed into two subdivisions, called the Pauk and Yaw subdivisions, with headquarters at Pauk and Yawdwin respectively. Each of the new subdivisions contained two townships: the former Pauk and Tilin and the latter Yaw and Laungshe. This left the Gangaw subdivision with one township, Kun-hna-ywa, only. During this year also there was a further readjustment of villages among the extreme western townships of the district. The township hitherto known as Yaw *cum* Saw was re-named the Yaw township. The following year witnessed the abolition of the Linkadaw township, the villages of which were divided up between the Pakangyi and Myaing townships, and also the abolition of the Pakangyi subdivision, which was amalgamated with the Pakôkku subdivision. At the same time the Pakangyi township was re-named the Yezagyo township (General Department Notifications Nos. 125, 126 and 128 of the 15th June 1891). Two months later a new township (General Department Notifications Nos. 225 and 226 of the 15th August) known as Seikpyu was formed out of thugyis' jurisdictions transferred from the Pakôkku, Pauk and Laungshe townships of the district and from the Kyabin township of the adjoining district of Minbu. It

was included in the Pakôkku subdivision. During this year also (General Department Notification No. 134 of the 18th June) the town and Civil Station of Pakôkku were formed into what was named the Pakôkku Municipal township, to the charge of which the Treasury Officer and Headquarters Magistrate was posted as township officer. This state of affairs continued till the year 1896, when on the 5th June (Judicial Department Notification No. 187) the Pakôkku Municipal township, or as it is called in the notification the Pakôkku Civil Station township, was abolished. The same year saw the transfer of the Zarama thugyi's jurisdiction from the Pakôkku township to Yezagyo (General Department Notification No. 134 of the 14th July). The next changes occurred in the year 1898 when twenty villages in the valley of the Môn river were transferred to the Sidôktaya township of Minbu (General Department Notification No. 178 of the 10th September). On the 13th of the same month (General Department Notification No. 183) the arrangements of townships and subdivisions of the district were again recast. The following was the arrangement then arrived at:—

District.	Subdivision.	Township.
Pakôkku ...	Pakôkku ...	Pakôkku. Yezagyo. Myaing.
	Pauk ...	Pauk. Seikpyu. Pasôk.
	Gangaw ...	Kun-hna-ywa. Tilin.

This change which mainly affected the west of the district was apparently due to the promulgation of the Chin Hills Regulation in 1897 and the severance of the Pakôkku Hill Tracts from the Pakôkku district either in 1897 or 1898, and the constitution of this area, which had hitherto been administered by the Subdivisional Officer, Yaw, into a separate charge under a Superintendent who was immediately responsible to the Commissioner of the Minbu (now Magwe) Division. A number of villages nearly all of which lay in the valley of the Yaw river were transferred from Pakôkku to Seikpyu, which township thus augmented was transferred to the Pauk subdivision, while Tilin, hitherto part of Pauk, was transferred to Gangaw.

The Yaw and Laungshe townships, amalgamated and re-named Pasôk, were also added to Pauk. Thus one sub-division, Yaw, was done away with. In January 1904 the headquarters of the Seikpyu township, which by the order authorising the formation of that township should have been located at Seikpyu, but which had actually been located at Aukseik, a few miles further down the river, were transferred to Seikpyu. In May 1904 the headquarters of the Pasôk township were transferred from Pasôk to Saw, by which name the township was known from August of the same year. In June 1905 the name of the township which up to this time had been known as Kun-hna-ywa, was changed to Gangaw. In January 1907 the Yaw river was made the boundary between the Pakôkku and Seikpyu townships involving the transfer of fifteen thugyis' jurisdictions from the latter to the former township, most of which had originally belonged to Pakôkku. This transfer was due to the fact that these jurisdictions, all situated on the left bank of the Yaw, were during the rains owing to floods inaccessible from Seikpyu, which is situated on the right bank of the Yaw. The arrangement introduced in September 1898 with the few modifications mentioned is still in force.

District staff.

The administration of the district in all its branches is controlled by the Deputy Commissioner, who as such is the chief executive authority. As District Magistrate he is responsible for all criminal work and is head of the District Police Force. As District Judge he is responsible for all Civil Judicial business: and as Collector he is responsible for all matters dealing with land and revenue. In his headquarter office he is assisted by a Headquarters Assistant, a Treasury Officer, an *Akunwun* and a Superintendent of Land Records. The Headquarters Assistant is usually an officer of the Provincial Civil Service and acts as the Senior Magistrate and as an Additional Judge of the District Court. He relieves the Deputy Commissioner of all Civil Judicial business and a certain amount of criminal work also. The Treasury Officer, usually a member of the Subordinate Civil Service, is in charge of the District Treasury and is also the Headquarters Magistrate and an Additional Judge of the Headquarters Township Court. The *Akunwun*, also a member of the Provincial or Subordinate Civil Service, is in immediate charge of all revenue business, while the Superintendent of Land Records is in charge of all Supplementary Survey work

and is responsible for the preparation of the land revenue assessment rolls. In addition to these officers each subdivision is in charge of a Subdivisional Officer and each township is in charge of a Township Officer. Subdivisional and Township Officers are, like the Deputy Commissioner, all invested with executive, judicial (civil) and magisterial powers.

Villa[ge-] tract[s]

The base unit of the administration is the village-tract. Perhaps it would more accurately define the state of affairs now ruling if this unit were for the present styled the thugyi's jurisdiction, for the ideal village-tract as contemplated in the Burma Village Act and the rules supplementary to that Act is in this district, as elsewhere in Upper Burma, in process of gradual formation. The Burmese units called *myos* and *ywas* have not yet all been done away with. These units, each ruled over by a single thugyi, were of varying size and might consist of a single village, or several villages occupying a considerable stretch of country. As their present incumbents die or are dismissed these older units are abolished, and their component villages are grouped into village-tracts, each under an independent commission drawing headman. Village-tracts consist either of a single village or a group of villages so situated that each can be personally supervised by a single headman. All headmen are appointed by the Deputy Commissioner and as such have certain limited magisterial powers. They are also responsible for the collection of land revenue and *thathameda* in their respective circles. In return for their duties they are paid a commission on all revenue collected by them. In the year 1908-09 there were 885 revenue-collecting headmen in the district. Of these twelve were in possession of special criminal powers granted under the Village Act, and forty-six were, under the same Act, empowered to try civil suits of a petty nature.

Crim[inal] Justi[ce]

Criminal justice in the district is dispensed by fourteen Stipendiary Magistrates and one Bench of Honorary Magistrates. The Deputy Commissioner as District Magistrate controls and is responsible for all criminal work in the dis-rict. The remaining Stipendiary Magistrates include the Senior Magistrate who is also the Headquarters Assistant, the Headquarters Magistrate who is also the Treasury Officer, and three Subdivisional and eight Township Magistrates. The original work of the District Magistrate is con-

fined, as in all districts in Upper Burma, to the trial of those offences not punishable with death, which under Schedule II of the Code of Criminal Procedure are not triable by any magistrate unless specially empowered under section 30 of the Code, and of those cases, in which by reason of the serious nature of the offence committed, or from the fact that the accused has been previously convicted, a punishment higher than that which a magistrate not specially empowered can award, is necessary. Appeals from all magistrates of the 2nd and 3rd class lie to the Court of the District Magistrate who also exercises control of the Courts subordinate to him by means of his revisional powers. The criminal work of the Senior Magistrate and the Headquarters Magistrate, is mainly supplied by Pakôkku town, though their jurisdictions are not necessarily confined to that area. The Court of the Subdivisional and Township Magistrates are situated respectively at the headquarters of the subdivisions and townships of which those officers are in executive charge. Their magisterial jurisdictions also coincide with the limits of those charges. Honorary Magistrates were first appointed in the district in the year 1890, and at present number six. Their work is all performed by two or more sitting as a bench, and their jurisdiction extends nominally over the whole District, though in practice it is confined to the town of Pakôkku. The table on the next page is an attempt to show how the criminal work of the district is distributed. Offences necessitating trial by the District Magistrate are not numerous. The bulk of the criminal work is supplied by the town and by the Pakôkku subdivision, which in volume is almost twice the amount supplied by the two other subdivisions of the district together. The distribution of the population alone satisfactorily accounts for this fact. Cognizable crime is not heavy nor very serious in nature. The majority of the cases brought to trial fall under Chapter XIV, or under the sections of the Indian Penal Code, dealing with hurt, assault, theft, criminal trespass and criminal intimidation and annoyance or under special or Local Acts. The criminal reports show few variations under the various classes of crime during the period 1902–1908. During 1909 the number of true cases reported to the police dropped to 435, showing a decrease of 295 cases as compared with the number reported during 1908. This decrease is attributed to the good harvest of 1908-09 which followed three successive poor harvests.

Number of Criminal trials in the various Courts of the District.

Year.	District Magistrate.		Senior Magistrate.	Additional Township Magistrate, Pakôkku.	Bench of Honorary Magistrates.	Subdivisional and Township Courts, Pakôkku Sub-division.	Subdivisional and Township Courts, Pauk Subdivision.	Subdivisional and Township Courts, Gangaw Sub-division.	In all Courts in the district.	Number of committals to Sessions Court.
	Under his special powers.	Under his ordinary powers.								
1906 ...	16	7	63	184	164	757	271	133	1,600	28
1907 ...	17	11	133	91	177	775	306	93	1,603	3
1908 ...	16	9	79	152	223	762	303	126	1,670	13
1909 ...	13	14	45	167	196	666	278	136	1,515	20

Civil Justice.

There are fourteen regular Civil Judges in the district whose Courts are of three grades. These latter are the Courts of the District Judge, of Subdivisional Judges and of Township Judges. The presiding officer of the District Court is the Deputy Commissioner, but all case work is carried on by the Headquarters Assistant, who is empowered as an Additional Judge of this Court. The Treasury Officer is an Additional Judge of the Pakôkku Township Court. Subdivisional Officers and Township Officers are Judges of their respective Subdivisional and Township Courts, the jurisdictions of which coincide with the limits of their executive charges. Original work in the District Court is light, the bulk of the work taking the form of appeals from the decrees of the lower Courts of the district, all of which are subordinate to the District Court. Appeals in the District Court during the four years ending 1909 averaged 108 cases a year. The greater part of the Civil Judicial work of the district is performed by Township Judges. It is of a petty nature, the average value of suits being well under Rs. 100. In the accompanying table the distribution of this work for the last four years is shown. Most of it arises in the town and in the Pakôkku, Yezagyo and Pauk Townships. Civil suits increased somewhat largely during the three years 1906, 1907 and 1908, but decreased again in 1909 by about 340

cases. This rise and fall is no doubt due to the nature of the harvests which preceded these four years. The harvests of 1907-08 and the two years which preceded it were very poor, while the harvest of 1908-09 was a good one. Poor agricultural seasons no doubt created a desire and even a necessity for the realisation of all outstanding debts.

Number of Original Civil Suits in various Courts in the District.

Year.	District Judge.	Additional Township Judge, Pakôkku.	Subdivisional Judge, Pakôkku.	Township Judges.			Subdivisional Judge, Pauk.	Township Judges.			Subdivisional Judge, Gangaw.	Township Judges.		Total in all Courts in the District.
				Pakôkku.	Yezagyo.	Myaing.		Pauk.	Seikpyu.	Saw.		Gangaw.	Tilin.	
1903	...	324	45	166	421	143	19	300	143	70	7	101	88	1,777
1907	1	368	26	199	459	174	24	371	79	114	10	110	43	1,988
1908	2	363	42	238	355	191	56	343	121	202	12	116	53	2,089
1909	4	349	30	237	332	158	32	316	96	138	8	88	52	1,835

In addition to the Judges above mentioned a number of headmen are empowered to try petty civil suits. The number so empowered in 1909 was 46. Most of them exercise these powers. In 1908 the Pakangyi headman, since deceased, tried no less than 108 civil cases. There are 16 second grade and 16 third grade Advocates practising in the district. Of these 13 reside ordinarily in Pakôkku town, but every township headquarters except Tilin, has at least one resident Advocate. This alone testifies to a great improvement on the state of affairs ruling in 1890 when the District Judge in his Annual Civil Justice Report for that year remarked, "The Laungshe Myoôk usually decreed the whole amount claimed if the claim was admitted, and one half if the claim was not admitted. The system of reducing his proceedings to writing was introduced this year. The Lingadaw Myoôk in cases of difficulty

resorted to trial by ordeal, the suit falling to the party whose candle burnt the longest. In some cases issues were fixed and a decree was promised to whichever party would swear to the truth of his claim, but no actual decision was recorded."

Mili Pol

In the early years after the annexation military police were supplied to the various posts of what afterwards became the Pakôkku district from Myingyan and Pagan. In 1888 on the formation of the district a military police battalion was raised for service in it, mainly from the old Pagan battalion. On the 1st January 1889 this force numbered 2 British officers and 904 rank and file. Reduction of its numbers appears to have started almost as soon as it was formed. In 1891 its strength was raised from six and one half companies to twelve, and it garrisoned posts in the Myingyan district as well as in Pakôkku. In November 1893 it was amalgamated with the Magwe battalion, and ceased from that date to exist as a separate force. Another body of military police called the Chin Levy, and quite distinct from the Pakôkku battalion, was raised in the year 1889 for service along the Chin Hills border. The following year this Levy was transferred *en bloc* to the Army. It was after its transfer known as the XII (Burma Battalion) Madras Infantry. It is now known as the 72nd Punjabis. Since the abolition of the Pakôkku battalion military police for the district have always been supplied by the Magwe battalion, and are now stationed at Pakôkku, Pauk and Gangaw only. The sanctioned strength for the district in 1909 was 2 Native Officers, 19 Non-commissioned Officers and 143 Sepoys. They are armed with Martini-Henri rifles and sword bayonets, and are employed for garrison duty and for the supply of guards and escorts over treasure and prisoners.

Civi Poli

The formation of the district civil police force also dates from 1888, when sanction was accorded to the entertainment of a force of 510 men under one District Superintendent and 2 Assistant Superintendents. The present force consists of 1 District Superintendent, 1 Head-quarter Assistant Superintendent and 402 men. This force is scattered over the district in 18 police stations and 16 outposts. The police stations at Pakôkku, Yezagyo, Pauk and Gangaw are armed, that is in each of these stations a certain number of Martini-Henri carbines are maintained for defensive purposes only. With the exception of a few natives of India, enlisted for duty in Pakôkku town,

and its British Officers, the force is composed entirely of Burmans from the district. In 1894 the experiment of enlisting Chins for frontier work was tried but proved unsuccessful. Some little difficulty is experienced in obtaining recruits in the western townships of the district, which is entirely due to the dislike the men recruited in those parts have to coming into Pakôkku for preliminary training.

Registration.

The Upper Burma Registration Regulation was enforced in the Pakôkku Municipality in June 1889. In October 1895 the Regulation was extended to Upper Burma generally, with certain exceptions, among which that part of this district situated to the west of the Pôndaung hills was included, in August 1896. In February 1898 the Upper Burma Registration of Deeds Act was promulgated, and the number of Registration offices in the district was increased to three by the establishment of offices at Yezagyo and Pauk. Early in 1908 the number of offices was increased to four by the opening of an office at Myaing. The Pakôkku office serves as a Registration office for the townships of Pakôkku and Seikpyu. Registrations of documents affecting immoveable property, that is compulsory registrations have steadily increased since 1902, and this increase is particularly noticeable during the years 1906, 1907 and 1908. The increase during these three years is partly due to the settlement operations which were in progress, and partly to the bad harvests which prevailed, and which necessitated borrowing on a larger scale than usual. Voluntary registrations also show signs of steady increase, but are not much resorted to.

Public Works Administration.

There have been many changes of Public Works Administration in the district since the annexation. From 1890 to 1896 it was included in the Myingyan Public Works division. In 1897 it was transferred to the Minbu division. In 1901 it was for a short time included in the Shwebo division and then formed into an independent subdivision In 1907 it was formed into a divisional charge which included the Pakôkku Hill Tracts, and in 1907 this charge was increased by the addition of part of the Myingyan civil district. The Pakôkku division is at present in charge of an Executive Engineer, and is divided into four subdivisions, two of which with headquarters at Pakôkku and Gangaw lie entirely within the limits of the civil district of Pakôkku. A third with headquarters at Seikpyu includes the Pakôkku Chin Hill Tract. The fourth is contained in the civil district of Myingyan.

CHAPTER X.

REVENUE ADMINISTRATION.

Land revenue administration; In Burmese times; policy after the annexation; *thathameda*; land revenue; survey and land revenue settlement of the district; fishery revenue; revenue collecting agency; miscellaneous land revenue; collections of land revenue.

The land revenue administration of the district is controlled by the Deputy Commissioner in his capacity as Collector, and is carried out by the district officers. At headquarters the Collector is assisted by two special officers, the Superintendent of Land Records whose duty it is to supervise the recording of holdings and crops on the assessment maps and the preparation of the land revenue assessment rolls from the date so recorded: and by the *Akunwun*, usually a member of the Subordinate Civil Service, who is in immediate charge of the district revenue office.

Under the late Monarchy revenue administration was carried on in the casual manner common to all administration. Land revenue was mainly derived from a tax called *thathameda*. The mode of assessment was as follows. Each *thugyi* counted the number of households in his jurisdiction. The number multiplied by a given rate represented the sum due for the year from his jurisdiction as *thathameda*. The demand so arrived at was distributed on the residents of the jurisdiction according to the means of each by the village elders, called *thamadis* or assessors. The *thugyi* then collected the tax according to the distribution so made. In some parts of the district a somewhat ingenious but cumbersome method of making individual assessments was adopted. A value in annas or multiplies of annas was assigned to each household. These values were fixed according to property owned. Thus a four-anna value would be assigned to a household possessed of one yoke of cattle, and an eight-anna share to one possessed of two yokes. Further shares would be allotted for the outturn of the land possessed. To all tangible means of subsistence a value of this nature was assigned. The values so allotted throughout the village were then added up, and the total divided into the demand due from the village. The quotient represented the actual

amount due on each anna of the anna values, which as above described had been allotted throughout the village. Thus if a value of twelve annas had been allotted on account of the property it possessed to a household, the share of *thathameda* due by that household would be twelve times the quotient. The *thugyi's* enumeration of houses was never checked unless the sum paid in by him appeared to be suspiciously small. The household rate was originally fixed at Rs. 3, but was soon raised to Rs. 10, a figure at which it stood at the annexation. In addition to *thathameda* a share of the outturn of all land known as *ayadaw* land was also due to the King by those who cultivated it. Royalties and fees were also levied on minerals extracted from the earth, but apparently taxation of this nature was in no way systematized.

Policy after the annexation.

It was the policy of the British Government, when Upper Burma was annexed, to continue existing methods of taxation so far as they could in justice be followed till better methods presented themselves, or were evolved. This policy was pursued in regard to *thathameda* and the existing direct land tax.

Thathameda.

Thathameda is still levied in the district at the Rs. 10 rate and still is the main tax of the district. Remissions, when owing to drought or other agricultural disaster they are considered necessary, are given by reducing the household rate below Rs. 10 over the locality affected. *Thathameda* rolls are prepared by the headmen. All residents of a jurisdiction are entered in the roll for the jurisdiction, and are grouped according to households. These rolls during their preparation are checked by district officers. The main points to which this check is directed are the inclusion in the rolls of all residents, excessive subdivision of families into households, excessive grouping of relatives and so called dependants into single households, and the correct entry and classification of exemptees. The rolls are then submitted to the Collector and are again checked in the *Akunwun's* office. The demand due is then entered in each roll and the rolls are returned to the headmen, who cause the *thamadis* to distribute the demand. Individual assessments as made by the *thamadis* are entered against each family in the rolls. After the publication of these individual assessments the tax is collected by the headmen and paid into the treasury. It appears that in the year 1893-94 the first year for which figures are available, 68,393 households were assessed to *thathameda* in the district, and collections amounted to Rs. 6,77,403. In 1908-09 the number of households assessed

was 77,122, and the amount collected was Rs. 7,63,899. The largest number of households assessed in any one year since the annexation was 80,489 in 1906-07, but owing to remissions this year was not the year of greatest collection. The largest amount of *thathameda* collected in any one year since the annexation was Rs. 7,88,470 in 1905-06, when the number of assessed households was 79,759. In 1907-08 a year of very bad harvest, the amount collected was only Rs. 6,12,247, though 78,637 households were assessed. Township figures prior to the year 1902-03 are not available. It appears that the increase in this tax which has taken place since that year is common to all townships of the district.

Lar reve

In accordance with the policy of Government entailing the continuance of existing taxation, direct land revenue has up to date been levied on all land, known to have been *ayadaw* land in Burmese times. Taxation of this nature has however not been confined to land which was *ayadaw*, but has been extended to all land which under the Upper Burma Land and Revenue Regulation is State land, in which tenure *ayadaw* land is now included. State land is now found all over the district but the bulk of it is situated in the islands of the Chindwin and Irrawaddy and on the mainland on the banks of those rivers. Originally these land assessments were made by the headman and village elders who estimated the outturn of each man's holding and then calculated at the prevailing selling price, the money value of the share of the holding due as revenue. In the year 1900-01 this practice so far as the State lands in the neighbourhood of the Chindwin and Irrawaddy were concerned was discontinued. A system of supplementary survey was introduced and assessments at crop acre rates were introduced. For this purpose a small staff of revenue surveyors is annually engaged for three months in the year, who make cadastral surveys, mark holdings and crops, and from the data so obtained prepare assessment rolls, on which the demand is based and tax-tickets issued. State land other than that in the riverine area to which the above system has been applied, is still subject to assessment by the old guess work system. On paddy land one-fifth of the gross produce is the share due to the State, while on land classed as *ya* land one-eighth of the gross produce is due. The total amount of direct land revenue collected in the year 1893-94 was Rs. 1,04,244. In 1908-09 the amount collected amounted to Rs. 1,62,196. The bulk of this direct land revenue is derived from the riverine lands, most of

which are contained in the Pakôkku and Yezagyo townships.

Survey and settlement. During the years 1900—1907 the whole of the townships of Pakôkku, Yezagyo and Myaing, and the inhabited portions of Pauk and Seikpyu were brought under cadastral survey by the Survey of India. In October 1905 settlement operations commenced in this surveyed area and were brought to a close in April 1910. The area under survey comprised 3,029 square miles or 1,938,448 acres. It was found that 38 per cent. or 734,940 acres were occupied for cultivation of which 389,936 acres or rather more than one-half of the occupied area, were under crops in the year of settlement Of the occupied area 140,010 acres or 19 per cent. were classed as State land the balance of the occupied area being classed as non-State. The object of the settlement was to bring all cultivated land, irrespective of tenure, under direct assessment. This was done by means of soil classification, acre rates being proposed for each class of land into which the area was divided. It was proposed to assess land, to which by reason of its impermanent nature soil rates could not be applied, at crop rates. The assessment of all land at acre rates necessitated a reduction in the *thathameda* rate of Rs. 10 which had hitherto been the normal rate of the district. Proposals for reduced rates varying with tracts were included in the settlement report. At the same time proposals were submitted for the assessment of toddy palm trees. The current demand for the year of settlement and the proposed demand based on data for the same year are given below:—

Item of revenue.	Current demand.	Proposed demand.
	Rs.	Rs.
Land revenue ...	1,09,910	4,54,621
Toddy palm revenue ...	2,267	1,09,666
Thathameda ...	6,43,310	2,89,393
Total ...	7,55,487	8,53,680

The proposal it will be seen entailed an increase on the current demand of Rs. 98,193 or 12·99 per cent.

Fishery revenue. Fishery revenue is derived either from leased fisheries or from net licenses. The former consist of tanks or depressions in the neighbourhood of the Chindwin and Irrawaddy rivers, which are filled by the annual

floods of these rivers, and in which water lies either throughout the year or for considerable periods. The right to catch fish in these areas is disposed of by public auction usually for a period of one year. Occasionally such rights are sold for longer periods. During the year 1909 there were 23 such leased fisheries in the Pakôkku township, 15 in Yezagyo and 1 in Seikpyu. Net licenses are issued on a small payment either by Township Officers or headmen, and authorise the licensee to fish with nets of specified descriptions in any water outside leased fisheries. In the year 1893-94 the fishery revenue of the district amounted to Rs. 6,889. Of late years it has averaged between Rs. 10,000 and Rs. 11,000. The actual receipts in 1908-09 were Rs. 10,155 of which Rs. 8,445 was derived from the sale of leases and Rs. 1,730 from the sale of net licenses. Of the demand Rs. 20 was remitted.

Reve colle agen

Revenue due from land put to agricultural purposes, *thathameda* and so much of the fishery revenue due on account of net licenses issued by them, is collected by the headmen. As a remuneration for their various duties they receive a commission on their collections. Commission is usually paid at the rate of 10 per cent. up to a total collection of Rs. 10,000. For revenue collected beyond that amount the commission paid is 6 per cent. The smaller of these rates however is paid on land revenue collected on account of land, the assessment of which is carried out by means of the temporary land records agency which has been mentioned above. In 1908-09 there were 885 revenue collecting headmen in the district, who received a total commission of Rs. 91,632.

Misc neou lanc venu

The Miscellaneous land revenue of the district of which the main item is made up of royalties and fees on minerals, excluding salt, has varied considerably since the annexation. In 1893-94 the amount collected under this main head was Rs. 19,218. In 1908-09 the amount collected was Rs. 1,05,066. The maximum amount collected in any one year was Rs. 2,99,226 in 1903-04 which year coincided with the year in which the largest output of petroleum was obtained from the Yenangyat wells. Miscellaneous land revenue receipts have steadily declined since 1903-04, and this decline is entirely due to the decrease in the quantity of oil won. The only other item under this main head of revenue which can be specifically detailed consists of receipts under the Village Act, and is made up of fines inflicted by the Deputy Commissioner on headmen or on villages for misconduct, and of fines inflicted by

headmen on villagers in the exercise of the magisterial powers which as headmen they possess under the Act. Receipts under this head have for the past five years averaged roughly Rs. 4,600 a year.

Land Revenue collections.

The land revenue collected during the year 1908-09 was obtained as shewn in the accompanying table:—

Township.	Land Revenue.	*Thathameda.*	Collection.		Total Land Revenue.
			Fishery revenue.	Miscellaneous Land revenue.	
1	2	3	4	5	6
	Rs.	Rs.	Rs.	Rs.	Rs.
Pakôkku ...	57,892	1,36,928	5,783	99,546	3,00,149
Yezagyo ...	51,289	1,85,646	3,850	1,828	2,42,613
Myaing ..	2,491	1,53,846	.....	1,407	1,57,744
Pauk ...	16,549	97,956	8	1,271	1,15,784
Seikpyu ...	11,855	59,367	65	257	71,544
Saw ...	5,962	47,181	30	390	53,563
Gangaw ...	7,021	55,310	417	263	63,011
Tilin ...	9,137	27,665	2	104	36,908
The District	1,62,196	7,63,899	10,155	1,05,066	10,41,316

CHAPTER XI.

LOCAL SELF-GOVERNMENT.

Local self-Government ; Pakôkku Municipality ; office and staff ; income and expenditure ; Yezagyo Municipality ; District Fund.

The only institutions in the nature of local self-Government in the district are the Municipality of Pakôkku town and the District Fund. Formerly there was a Municipality at Yezagyo but it was abolished many years ago.

Pakôkku Municipality.

The Pakôkku Municipality was constituted in December 1887 before the formation of the district. The municipal committee has always been composed of ex-officio and nominated members, the former being officials of the district and the latter residents of the town. The numbers of both classes of members have varied from time to time.

At present there are five ex-officio and eight nominated members. The Deputy Commissioner and Civil Surgeon of the district are ex-officio President and Vice-President of the Committee respectively. Till 1901 municipal limits were confined to what may be described as the town proper, but in that year the east boundary was extended so as to include the Civil Station.

Muni- pal of and s

The municipal staff consists of a paid Secretary under whom are a clerical establishment and a conservancy staff. The office was originally situated in a building which now serves as the town police outpost. In 1903 the present municipal office was built at a cost of Rs. 5,491 of which Rs. 2,500 were contributed by Government. It is a well constructed building situated in the middle of the town, and in addition to office accommodation, contains a court-room for the use of the Honorary Magistrates.

Inco- and pend- ture.

Income is derived from taxes and tolls, fees and fines under special Acts and from municipal property. The main tax is one on land covered by buildings and is assessed on the area so covered. This tax was introduced in 1907 and superseded a tax which was fixed at 30 per cent. of the *thathameda* paid by each house-holder. Other taxes include a tax on carts, levied either directly or by means of tolls, and taxes for conservancy purposes. These latter were introduced in 1908 and 1909. Income derived from the annual sale of ferry rights on the Irrawaddy may also be included under the head "taxes and tolls." During the municipal year 1891-92, the first for which census figures are available, the incidence of taxation of this nature worked out to Rs. ·64 per head of the population. In 1908-09 it had risen to Rs. 1·40 per head. Revenue from municipal property is mainly made up of rents charged on tolls in the municipal bazaars, of which there are two, and from the sale of the rights to collect fees for the use of the municipal slaughter houses. The total income for the two years mentioned above was Rs. 28,276 and Rs. 55,527. It will be seen that income has approximately doubled in the interval. Money has been mainly spent on public works and conservancy. Formerly the contribution on account of municipal police was a heavy charge but was discontinued in 1905, when the Burma Municipal Act came into force. The lighting of the town was started in 1894 and has been extended to all the main streets. There are at present about 23 miles of roads, one-half of which are metalled and all of which have been constructed and are maintained by the municipality. Latterly

much attention has been paid to conservancy, and during the years 1907-08 and 1908-09 approximately one half of the municipal revenue has been expended on the development of conservancy schemes.

Yezagyo Municipality.

The municipality of Yezagyo was formed in November 1887 and included the villages of Letpagaing, Pandawbyin and Mônnyinbyin, which together make up Yezagyo. The population of these three villages at the census of 1891 was 3,945. It is not easy to understand why the municipality was ever formed. In May 1892 it was abolished, and all municipal property together with a debt of Rs. 3,854 due to Government was taken over by the District Fund. The abolition of this municipality was due to loss of trade occasioned by the imposition of a cart-tax, inability of the people to pay both municipal and imperial taxation, and to the large expenditure, compared with income, incurred on the necessary establishment.

District Fund.

The District Fund is administered by the Deputy Commissioner under the general control of the Commissioner. Its income is derived from ferry leases, rents of stalls in Bazaars and fees for the use of slaughter houses situated in the district, realisations under the Cattle Trespass Act and of late years contributions from provincial funds. The total income of the fund in 1898-99 amounted to Rs. 11,393. In 1908-09 it had risen to Rs. 36,624. Of this increase Rs. 15,000 represented the provincial grant. Expenditure, which in the first of the two years mentioned was Rs. 11,408, in 1908-09 had risen to Rs. 35,616. The expenditure of the fund almost entirely falls under the head Civil Works. Money is spent on improving district roads, building rest-houses, sinking wells and digging and deepening tanks.

CHAPTER XII.

EDUCATION.

Education in Burmese times; British Educational system; Vernacular schools; Public schools; Standard of education; Female education; Anglo-vernacular schools; Other mission schools; Government Schools; Expenditure.

Under Burmese rule.

Before the annexation education in Pakôkku was as elsewhere in Upper Burma, in the hands of the *pôngyis* or Buddhist monks. The primary object of these devotees was

instruction in the Buddhist religion. Their methods were hide bound and so far as they were concerned the intellectual development of the pupils were limited in result. Reading and writing were the chief acquirements of the most advanced pupils, accompanied some times by a vague arithmetic and a stock of Pâli maxims learned by rote.

Britisl educa- tional systen

In the year 1890-91, the first in which the British Government devoted its attention to education in Upper Burma, a Burman Deputy Inspector of Schools was appointed to the charge of the Magwe and Pakôkku districts. His duties were to register as public all schools which agreed to teach an accepted Government curriculum, to inspect them, to hold annual examinations in them and to allot to their managers certain sums of money, calculated on the number of scholars who qualified at these examinations, as result grants. It was early recognised that this vast field was too much for one man to exploit, and in 1892 the Pakôkku district was formed into a separate educational charge. Ten years later it was subdivided into two Inspectorates, the A and B divisions. In the A division were included the town of Pakôkku, and the four townships Pakôkku, Yezagyo, Myaing and Seikpyu. The remaining four townships of the district were comprised in the B division. This subdivision of the district is still in force. The plan of operations adopted by the Education Department was, and primarily is, to induce existing institutions to adopt the Government curriculum and with it inspection and examination. It is also endeavoured to foster the foundation in suitable places of lay schools by means of direct salary grants to teachers, who are invariably also proprietors. Such schools are more amenable to the discipline of the Department than is the case with monastic schools, and will admit girls as well as boys. Occasionally also schools are founded and carried on by direct Government agency controlled by the Department.

Vern lar schoo

According to the Report on Education for the year 1909-10 there were in the district during that year 180 public schools attended by 4,988 scholars and 781 private schools with an attendance of 8,040 scholars, making in all a grand total of 961 schools and 13,028 scholars. These figures imply that 15·36 per cent. of the children of the district, of ages varying between five and fifteen years, were receiving education during the year.

Publi schoo

An examination of the figures for past years reveals the fact that the number of schools registered as public rose year by year till in 1898-99 it reached a total of 224.

The following year it decreased to 121 and since then has again steadily risen till in 1909-10 it stood at 180. It appears that during the early years of the British regimè owing to hasty registration due mainly to the inadequacy of the controlling staff many schools were returned as public, which were afterwards found to have made no change in their teaching. During the year 1899-1900 these were weeded out, and those only were retained on the public school list, which had complied with Government conditions.

The following table shows the distribution of the public schools of the district during the year 1909-10 :—

—	Number of Secondary Schools.	Total number of schools.	Total number of Pupils.	
			Boys.	Girls.
Pakôkku town ...	9	28	881	355
Pakôkku township ...	1	24	527	164
Yezagyo township ...	10	44	1,026	186
Myaing township ...	8	31	540	110
Seikpyu township ...	6	19	230	65
Pauk township ...	3	17	383	33
Saw township ...	...	7	147	...
Gangaw township ...	3	8	189	80
Tilin township ...	1	2	61	11
Total ...	41	180	3,984	1,004

It will be seen that education is most backward in the three western townships of the district.

Standard of education.

No vernacular school in the district teaches beyond the VIIth standard and most of the education carried on is of a primary nature, officially IVth standard and under. Until the year 1903-04 there were only four schools in the district outside Pakôkku town imparting secondary education. Three of these were opened during that year and all were strange to say contained in the B division, the most backward of the two into which the district is divided. That the standard of education has of late years improved is apparent from the fact that there are now 41 secondary schools, of which 32 are situated in the district as distinct from the town In every township except Saw, schools of this nature have by now been established. The number of boys who have passed the Vth, VIth and VIIth standard examinations prescribed by the Department has steadily

risen. In 1909-10 the actual numbers were Vth standard 77, VIth standard 50 and VIIth standard 12. The best secondary Vernacular school in the whole district is a monastic school situated in the town and managed by a monk, U Meda. Of the 12 passes by the VIIth standard alluded to above 5 were secured by pupils from U Meda's school. Formerly the ignorance and inertia of the school teachers of the district, the majority of whom are *pôngyis*, were regarded as among the chief difficulties which Education Officers had to contend with. The fact that no less than 11 out of the 12 passes by the VIIth standard gained in the year 1909-10 were gained by scholars educated in monastic schools, shows that to some extent at least these difficulties have been overcome.

Fema[le] educa[-]tion.

Lay public schools, whether classed by the Department as boy schools or girl schools, admit pupils of both sexes. It will be seen from the table in paragraph 4 above that approximately one-fourth of the pupils attending the public schools of the district are girls.

It appears that only 2·36 per cent. of the girls of the district of ages varying between five and fifteen years were receiving education during 1909-10 whereas the percentage of boys of similar ages attending school during that year was as high as 28·45. This variation is largely accounted for by the fact that the education of girls is almost entirely confined to public schools. The majority of the private schools being monastic institutions will admit only boys. The education of girls is undoubtedly very backward, nevertheless some little progress has been made. Twenty girls in the district have passed the Vth standard examination, 6 have passed the VIth standard and 1 has actually passed the VIIth standard. No girl from a school in the B division has passed a standard higher than the IVth and only 7 have accomplished that feat.

Ang[lo-]verna[cu-]lar e[du-]catio[n].

Anglo-vernacular education in the district is confined to the school maintained in Pakôkku town by the English Wesleyan Missionary Society. It was opened in 1889 and at first encountered much opposition. Shortly after its establishment a deputation of Burman elders and officials formally asked the Reverend Mr. Bestall, who was at that time in charge of the Mission, to close the school. Religion appears to have been the cause of this opposition, which was so great that the Municipal authorities of the town were induced to open a Municipal school, practically an opposition establishment. The first Government examinations however vindicated the educational methods adopted in the

Wesleyan school, and the year after its opening the Municipal school was closed. The majority of its pupils were transferred to the Mission school, which has since steadily grown under the control of the various missionaries who have from time to time been stationed at Pakôkku. The school at present has a staff of eight teachers and is attended by over 200 pupils. It is carried on in two large well-built brick buildings situated in the town, which were erected partly by Mission funds and partly by grants from Government. Education is provided for both sexes and two hostels, one for boys and one for girls, are maintained in connection with the school. The Wesleyan school is undoubtedly the best educational institution in the district and has on more than one occasion been mentioned in the Provincial report as being the best Anglo-Vernacular school in Upper Burma. It is about to be graded as a High School.

Other Mission Schools.

The same mission maintains nine vernacular schools, of which six are situated in Pakôkku town, and three in the district. So much are these schools appreciated that the whole of the building for the schools at Shwe-gyaung and Yezagyo were erected entirely at the expense of the people of those villages.

Government schools.

There are two schools in the district maintained by Government. One is an ordinary educational establishment, graded as a secondary school, and situated at Gangaw. The other is a Survey school located at the headquarters of the district for the training of youths in surveying. Its object is the supply of trained surveyors for Land Records Work. This latter school is in no way connected with the Educational Department. It is directly under the charge of the Superintendent of Land Records and is under the control of the Commissioner of Settlements and Land Records.

Expenditure on education.

Expenditure on education in the district is defrayed from Provincial and Municipal funds and from fees. Grants from provincial funds are occasionally made to aid in the erection of school buildings. The bulk of the money supplied from this source is allotted as remuneration to teachers and proprietors either directly or indirectly in the shape of results-grants calculated on the number of pupils who qualify at the annual examinations. The maintenance of the local Education Officers is also defrayed by provincial funds. In the year 1898-99 the total provincial expenditure on education in the district amounted to Rs. 7,828. In 1909-10 it had risen to Rs. 21,485. Municipal expenditure on education takes the form of an annual grant of Rs. 600 to the

Wesleyan Mission school in Pakôkku town. The amount paid as school fees in the district during 1909-10 is stated to have been Rs. 7,903. The only accurate part of this figure is a sum of Rs. 5,195 actually received as school fees at the Wesleyan Mission school. During the same year a sum of Rs. 532 is shewn in the report as having been received from other sources, which item includes private subscriptions. Here again it is impossible accurately to gauge the amount received. However, taking the figures as they are given in the district reports, it appears that a total sum of Rs. 30,520 was spent in the district on education during the year 1909-10, of which Rs. 25,279 was spent in the A division. Corresponding expenditure for the year 1898-99 is stated to have been Rs. 9,436.

CHAPTER XIII.

PUBLIC HEALTH.

Public health; vital statistics; classification of deaths; malaria; cholera; small-pox; plague; water-supply; drainage; conservancy; vaccination; hospitals.

Public health.

The Pakôkku district is on the whole an exceedingly healthy one. Beyond the Pôndaungrange, however, in the three western townships of the district, a good deal of malaria prevails, due no doubt to the somewhat heavy rainfall experienced, and to the fact that the greater part of these townships is covered with dense forests. It is sometimes said of the dry zone parts of the district that the only diseases from which people suffer are old age and sore eyes.

Vital statist[ics].

Statistics of births and deaths have been recorded in Pakôkku town since the year 1898. In the following year the rules for the registration of deaths were extended to all that part of the district, which is situated to the east of the Pôndaung range, that is to the Pakôkku subdivision and to the townships of Pauk and Seikpyu. In 1907 the rules for the registration of births were also extended to the same area. Finally with effect from the 1st January 1909 the rules for the registration of both births and deaths were enforced throughout the district. From an investigation of the figures contained in the Sanitary Reports for the years 1901 to 1909, that is from the year of the last decennial

census to date, it appears that the average annual birth-rate prevailing in Pakôkku town during these nine years has been 42·53 per mille of the population. This is a good deal higher than the average rate which has prevailed during the same period in urban areas in Upper Burma generally, which works out to 36·22 per mille. The average annual birth-rate of the whole district works out to 35·24 per mille, and does not differ materially from the average annual rate of Upper Burma generally, which is 35·52 per mille. The average annual death-rate of Pakôkku town based on figures for the nine years 1901 to 1909 works out to 49·41 per mille. This is appreciably higher than the average rate which has prevailed in urban areas in Upper Burma generally during the same period, which is 36·94 per mille. If Mandalay and Maymyo be excluded as being towns in which, on account of the large native of India population found in them, conditions are not similar to those ruling in Pakôkku, the average annual urban death-rate of Upper Burma for the last nine years was 38·53 per mille. Pakôkku's high average death-rate is largely due to the high mortality recorded for the year 1905, namely 62·55 per mille. This very high mortality was never satisfactorily explained and it is exceedingly doubtful if it ever occurred. In the rural areas of the district the average mortality which has prevailed during the last seven years works out to 21·48, which compares favourably with the average rate which has prevailed during the same period in rural areas throughout Upper Burma, which stands at 23·75 per mille. Of the deaths which annually occur throughout the district, including the town, on an average 34·82 per cent. take place among children up to five years of age. The average of similar mortality in Upper Burma generally is 37·56 per mile.

Classification of deaths. The registrars of vital statistics in the town are ward headmen and in rural areas are village headmen. Classification of deaths therefore cannot possibly be accurately carried out. The bulk of the deaths which take place figure in the Sanitary Reports under the head "Other causes." It would however appear that of the deaths which have occurred since registration has been in force, 17·91 per cent. in the town and 42·89 per cent. in the district have been due to fever.

Malaria. East of the Pôndaung hills there is very little malaria. The climate is dry and natural drainage is excellent, and ther is little opportunity for stagnant water to collect. Thee whole of the Saw township is however notoriously malarious, and this disease is fairly prevalent in Tilin and

Gangaw. The value of quinine is gradually becoming known and efforts are being made to encourage its more general use.

Cho

Up to the year 1900 cholera visited Pakôkku town with regular periodicity, but owing to improvements in sanitation and in the water-supply, which have been from time to time carried out, outbreaks of this disease of late years have occurred at less frequent intervals than was formerly the case. The disease occurred in the town in 1903 causing 76 deaths, in 1904 causing 177 deaths, in 1906 causing 23 deaths and in 1909 causing 41 deaths. A few cases of cholera have occurred in the district every year since 1902. In 1903 and 1909 it broke out seriously in epidemic form causing 632 deaths in the former and 835 deaths in the latter year.

Sma pox

Small-pox may be said to be endemic in the district and is due to the practice of inoculation which is common throughout the district except in Pakôkku town, where compulsory vaccination is in force. In 1900 it appeared in epidemic form both in the town and district causing 202 deaths in town and 868 deaths in the district. It again visited the town in 1908 when 48 people died. During the years 1906, 1907 and 1908 it occurred in epidemic form in the district. In 1907, 644 people died from the disease.

Pla

Up to date both the town and the district of Pakôkku have enjoyed complete immunity from plague. In 1906 two deaths in the town and one in the district were attributed to this disease. The victims were however people who had shortly before their death come from a plague-infected district. One death due to plague is shewn in the returns for 1909. This was the death of a Chinese boy which actually took place on an Irrawaddy Flotilla steamer travelling from Mônywa where plague at the time was present. The death was included in the Pakôkku district returns because the boy was buried near Yezagyo in the district. The immunity of Pakôkku from plague is sometimes attributed to the fact that there is no railway communication in the district. This may be the secret of Pakôkku's good fortune.

W sup

The main water-supply of Pakôkku town is furnished by the Irrawaddy. This river and the Chindwin also constitute the main water-supply of the villages situated along their banks. So long as the water taken from these sources is running water, no safer water-supply could probably be found. Water taken from wells scooped in the sandy beds of these streams is also probably extremely pure. Pools and long stretches of water left in these sandy beds as the rivers

run low in the dry weather however soon become stagnant and are often sources of disease. The Burman is naturally lazy and is not particular about the water he drinks. In the town itself much attention has been paid to wells, and a good deal of money has been spent by the Municipality in making them sanitary. Away from the two big rivers water is in many parts of the district exceedingly scarce. It is probably most free from contamination, but often least palatable when obtained from wells scooped in stream beds, for when obtained from such sources it is often brackish. Ordinary wells exist in many villages. These are seldom built on sanitary principles and the ground surface round them is usually unprotected. Many villages are dependant on tanks which are usually protected by hedges from being fouled by cattle. In others for several months of the year there is no local water-supply at all, and the people have to daily import water from the nearest supply, which is often three and four miles distant, in barrels mounted on cart wheels. The water-supply of the district is a difficult question. Hitherto the efforts of the authorities have been directed to increasing rather than improving this supply. To this end Government and the District Fund have expended considerable sums in deepening out existing tanks, and so increasing their storage capacity in the most economic manner, for wastage by evaporation in the dry months of the year is great.

)rainage.

Attention has been paid to the drainage of the town. As a matter of fact both in the town and the district natural drainage is good. The soil of the greater part of the district is sandy and porous, so that moisture cannot accumulate even in the rains. Many village sites in the riverine area are for two and three months during the rainy season inundated, but as this flooding is caused by running water, it is from a sanitary point of view probably beneficial.

;onser-ancy.

Organized conservancy is confined to the town of Pakôkku, where it is undertaken by the Municipality, and to three or four of the subdivisional and township headquarters, where small conservancy staffs maintained by the District Fund clear the roads of litter and rubbish. In the town cess pools were till lately common. In 1908 the Municipality introduced an elaborate system of conservancy at a considerable cost, and cess pools are gradually being abolished as this system develops. Rules for village sanitation are contained in the Village Manual and the headmen are responsible for their due enforcement. Villages in the district are as a rule kept fairly clean. Sites are usually well chosen on high

ground. Cattle pens are the chief source of uncleanliness. In the rains they become perfect quagmires in which cattle stand knee deep in filth and slush. Monasteries and their precincts are invariably models of cleanliness.

Vaccination is compulsory in the town only, in which area the Vaccination Act was brought into force in 1891. An itinerant vaccinator was appointed to the district in 1889, and vaccination has always been performed at dispensaries when required. In 1907 a native Superintendent of Vaccination was appointed to the district and the staff of vaccinators, which up to date had numbered six, was increased to nine, at which figure it now stands. This increase allowed one vaccinator to each township of the district and one to the town. Prior to the increase vaccination in the three western townships of the district had been almost entirely confined to that performed at dispensaries. Till recently the people in the district were opposed to vaccination, urging that inoculation, which was freely practised, if it did not kill outright, was an unfailing prophylactic against small-pox, whereas the effects of vaccination were only temporary. In 1905 exaggerated reports about plague preventive measures increased the distrust of the people in vaccination to such an extent that the number of operations performed during that year fell to 7,713 or nearly 2,000 less than the number carried out in the preceding year. In 1907 however the number of operations rose to 15,458, while in 1909 it reached a total of 20,700. No doubt the increase in the vaccination staff which took place in 1907 accounts in a great measure for these very satisfactory figures. It is possible however that they are in some degree due to the epidemic of small-pox which was continuous in the rural areas of the district from February 1906 to March 1908. Efforts have been made to popularize vaccination and there is reason to hope that the opposition of the people will soon entirely die out. Vactio

There are five hospitals in the district, of which two are situated at headquarters, one at Yenangyat, one at Pauk and one at Gangaw. In 1891 small out-patient dispensaries were opened at Yesagyo and Myaing and placed in charge of Hospital Assistants attached to the military police stationed at those places. In 1892 these two military police posts were withdrawn and civil dispensaries in consequence closed. Of the two hospitals at headquarters, the one in the civil station is maintained solely for the military police. The one in the town is a Municipal institution and is maintained for the general public. The hospitals at Gangaw and Pauk were opened in 1889 and 1892 respectively and are main- Hostals

tained for the military police at those two posts and also for the civil population. The Yenangyat hospital was opened in 1901 at the request of the various oil companies established there, who defrayed the cost of the necessary buildings, and who yearly contribute to the upkeep of the hospital. All five hospitals are controlled by the Civil Surgeon of the district, each being in the immediate charge of a Sub-Assistant Surgeon. During the year 1893, the first for which statistics are available, the Pakôkku and Gangaw civil hospitals contained accommodation for 25 in-patients, and the total number of patients treated was 2,889. In 1909 the four civil hospitals of the district contained accommodation for 72 in-patients. The total number of patients treated during that year was 20,434. Fevers, diseases of the eye, skin diseases, bowel-complaints and ulcers are the chief ailments treated. Venereal disease, though common in the town, is rare in the district.

CHAPTER XIV.

MINOR ARTICLES.

Pakôkku subdivision; Pakôkku township; Pakôkku town; Yezagyo township; Yezagyo; Ma-u; Neyin; Nwèni; Pakangyi; Myaing township; Myaing; Pauk subdivision; Pauk township; Pauk; Seikpyu township; Seikpyu; Saw township; Saw; Gangaw subdivision; Gangaw township; Gangaw; Minywa; Shônshi; Tilin township; Tilin.

[Pa]kôkku [su]bdivi[si]on.

The headquarter subdivision of the district is contained between meridians 94·43 and 95·24 east longitude and parallels 21·23 and 21·53 north latitude. It is bounded on the north by the Yinmabin subdivision of the Lower Chindwin district, on the east by the Irrawaddy river, on the south by the Seikpyu township of the district and on the west partly by the Yaw river and partly by the Tangyidaung hills. It was first gazetted in 1887 as a subdivision of the old Pagan district, and consisted at that time of the Pakôkku township only. Early in 1888 the Myaing township was added to it. Later in the same year it became the headquarter subdivision of the newly formed Pakôkku district. In 1891 the Pakangyi subdivision of the district was abolished and its area was added to the Pakôkku subdivision, and a

new township, Seikpyu, was also added. In 1896 the interior units of the district were redistributed and the Pakôkku subdivision was confined to the three townships, Pakôkku, Yezagyo and Myaing, which it now contains. The only change which has since taken place is the extension of a part of the western boundary of the subdivision from the Tangyidaung range to the Yaw river.

This is the headquarter township of the district and is contained in the headquarter subdivision. Its area is 395 square miles or approximately 252,921 acres. It lies between meridians 94·43 and 95·11 east longitude and parallels 20·55 and 21·28 north latitude. It is in shape an irregular triangle, of which the base is situated in the north and the apex at the south. It is bounded on the east and south-east by the Irrawaddy. It is bounded on the north by the Yezagyo and Myaing townships, but this north boundary follows no marked feature nor has it ever been specifically demarcated. It can only be ascertained by following boundaries of individual *thugyi's* jurisdictions. Starting in the north the western boundary for a few miles runs southwards along the crest of the Tangyidaung hills. It then strikes westwards to the Yaw river which it follows southwards to its junction with the Irrawaddy. Its greatest width is 33 miles measured along the Pakôkku-Pauk road, which runs due west from Pakôkku town and the river to the hills which form the western border. At Myitkyi, some 20 miles down stream from Pakôkku town, the township narrows to about 10 miles, and from here southwards continues as a long narrow strip, made up of the Tangyidaung range and those portions of the valleys of the Irrawaddy and Yaw rivers which border that range on either side. It originated as an administrative unit of the old Pagan district, at which time it was by no means coincident in area with the present township. In Burmese times the villages of which it is now made up were mostly contained in the *wun*ship of Pagan, a few belonging to the *wun*ship of Pakan or Pakangyi. At the census of 1901 its population amounted to 68,344 persons, of whom 19,456 were contained in the town of Pakôkku. Of its total area 148,169 acres are occupied for cultivation, of which 3,544 acres only have been classed as capable of growing paddy. From an agricultural point of view it may be divided into an inundated strip stretching from its north-eastern point along the Irrawaddy to Yenangyat, and again appearing at its extreme southern point and an area of uplands. The inundated portion is fertile and harvests are fairly secure. Most of the tobacco growing

land of the district is found in the inundated portion of this township. The bulk of the township is made up of sandy uplands, in which jowar and sesamum are the only crops which can be grown. These uplands are very infertile and crop failures are of frequent occurrence. The western half of the township is thickly studded with toddy palms which are regularly tapped for their juice. This industry alone enables the township to support its present population. The revenue obtained from the township in the year 1908-09 amounted to Rs. 3,00,149, of which Rs. 97,124 represented royalties on minerals, mainly petroleum mined at Yenangyat. The maximum revenue obtained in the township was Rs. 4,86,322 in the year 1903-04. Of this sum Rs. 2,93,269 was made up of royalties on minerals.

Pakôkku Town. A town about three miles long with an average depth of about one mile, which stretches along the right bank of the Irrawaddy. It is supposed to have been founded in 1176 B.E. (A.D. 1816). The story of its origin is that the *thugyi* of Myitkaing village, now included in the municipal town of Pakôkku, was called upon by the King to furnish troops for an expedition against the Shans. The *thugyi* was personally to lead his levy. The *thugyi* was not at all anxious to proceed on the expedition and induced one Maung Shwe Bwin to go in his place, promising that on Maung Shwe Bwin's return, he, the *thugyi*, would hand over the *thugyi*-ship of Myitkaing to him. Maung Shwe Bwin duly personated the *thugyi*, proceeded on the expedition, which was successful, and returned, and claimed the fulfilment of the promise made to him. The *thugyi*, who no doubt thought that Maung Shwe Bwin would be killed, refused to hand over the *thugyi*ship. A compromise was arrived at by which Maung Shwe Bwin was allowed to found a village alongside Myitkaing, and was duly recognized as the *thugyi* of this new village. It is said that Shwe Bwin and his people at the founding of the new village, cleared out an old cave, which had apparently up till that time been used by thieves for the disposal of bones of slaughtered stolen cattle. They named the new village "Tha-dôk-ku" from this circumstance. These words it is said mean "cave from which offal (bones?) had been cleared". The name subsequently became corrupted into Pakôkku. The village founded by Maung Shwe Bwin quickly grew and soon became the biggest village on the river after the capital, a position which so far as Upper Burma is concerned, it still maintains. Another account of the origin of the name states that the words "Tha-dôk-ku" mean "child bundle cave" and have

reference to the fact that the son of one of the lesser queens of King Narapadi-sithu was buried in a cave round the site of which the village was first founded. In Scott's Upper Burma Gazetteer it is said that until a few years before the annexation Pakôkku was a small fishing village, and that Kun-ywa, a village situated some five miles up stream, was of greater importance. This assertion and its consequent inference that in the short space of a few years Pakôkku increased from a small village to a town of nearly 20,000 inhabitants, finds no local corroboration and is incorrect. The description of the town in the Upper Burma Gazetteer was compiled from an account written in May 1889 by a military officer. Probably the theory that Kun-ywa was of greater importance than Pakôkku originated in the fact that till a few years before the annexation the deep water channel of the Irrawaddy, which is joined in the neighbourhood of Kun-ywa by the Chindwin, flowed close inshore near that village, but was separated from Pakôkku by a large sand bank, which even at flood time was barely covered. In consequence Kun-ywa was the port of call for steamers of the Irrawaddy Flotilla Company, which even before the annexation had an established service between Rangoon and Mandalay. Reference has been made in Chapter II to the grouping of the *thugyis'* jurisdictions of the Pakangyi *wun's* charge into larger units known as *thwethauks*. The *thwethauk* in which both Pakôkku and Kun-ywa were contained was known as the Pakôkku *thwethauk*, and the *thugyi* of Pakôkku was the *thwethaukkyi*. This fact alone is a refutation of the assertion that Kun-ywa was of more importance than Pakôkku. It is locally stated, and there is no reason whatever for doubting the statement, that only imports and exports by steamer entered and left the district by Kun-ywa. Pakôkku always was the recognized centre for all trade carried by country boats. During the years 1885 and 1886 Pakôkku town was held by a garrison of 100 men detached from a native infantry regiment stationed at Pagan, and by a few civil police. In 1887 the town became the headquarters of a distinct military command, which was composed of one native cavalry and two native infantry regiments. It was gazetted a municipal town in 1887 and became the headquarters of a district the following year. This no doubt added an impetus to the development of the town. The main cause of the growth of the town mentioned by the writer of the account referred to, which in reality was only apparent, was the fact that shortly before the annexation the deep water channel

of the Irrawaddy began again to flow close to the town, and steamers were consequently enabled to tie up within the limits of its foreshore. The condition of the channel is however constantly changing, and of late years steamers have only been able to approach the actual town during high water. The steamer ghât in general use, and one in which there is a sufficient depth of water all the year round, is situated near Kywêdè village about two miles upstream from the north end of the town. Pakôkku consists of a native town and a civil station in which are located most of the public offices and the houses of the European residents. These two portions are separated from each other by a sandy stream bed about one half of a mile wide, the town proper lying to the west and the civil station to the east of this dividing line. In the year 1902, much to the convenience of every one, a bridge was built across this stream-bed. The population of the Municipality, which includes both portions of the town mentioned above, was 19,456 at the census of 1901, and shewed a decrease of 516 as compared with the population at the census of 1891. There is no doubt that the population is not growing. Pakôkku is almost entirely a Burman town, the non-Burman population barely amounting to 1,000.

The public offices are those usually found at the head-quarters of a district. Until 1906 there was a jail, which early in that year was abolished. A branch of the English Wesleyan Mission is established in the town with a resident English pastor and a church. This mission also maintains a school for both sexes, which is much appreciated by the people of the town and the district. The Irrawaddy Flotilla Company has an agency with a resident agent. The Bombay Burma Trading Corporation also has a rafting agency at Kun-ywa, the manager in charge of which lives on the outskirts of the civil station, which has also lately been made the recess headquarters of the manager and assistants of the same corporation, who are in charge of the Pauk forests. Accommodation for travellers and visitors is available at the circuit-house by permission of the Deputy Commissioner, and usually without reserve at the Public Works Department rest-house, both of which are situated in the civil station.

Yezagyo Township. A township of the Pakôkku subdivision with an area of 377 square miles, or 241,269 acres. It lies between meridians 95°10 and 95°24 east longitude, and parallels 21°24 and 21°52 north latitude. The township is made up partly of the main land of the district and partly of one large island formed between the main channels of the Irrawaddy and

Chindwin rivers. It is bounded on the north by the Yama stream, which separates it from the Salingyi township of the Lower Chindwin: on the west by the Myaing township, from which it is separated mainly by the Shinmataung range: on the south by the Pakôkku township and on the east by the Irrawaddy. The large island alluded to is known as Alègyaw or Alègyun and is separated from the mainland by the Chindwin. It is about 20 miles long from north to south and has a width of 4 miles at its broadest part. It is a permanent formation which has been in existence for some hundreds of years, a fact to which the large trees and old pagodas found on it testify. The township originated as the Pakangyi township of the old Myingyan district and was one of the three which made up the old Pakangyi subdivision. The headquarters of both the township and subdivision were first located at Pakangyi and were subsequently transferred to Yezagyo. It became a township of the present Pakôkku district in 1888. In 1891 the Linkadaw township was abolished and part of its area was added to Pakangyi. This township thus increased was henceforth known as the Yezagyo township.

In Burmese times it consisted of 8 *thwethauk*ships of the Pakangyi *wun's* charge. Its population in 1901 was 48,028. Of its total area 138,622 acres, or approximately one half, are occupied for cultivation. Of the occupied area 33,364 acres have been classed as paddy land. The whole of the Alègyun island and a considerable portion of the mainland are yearly inundated by the Chindwin and Irrawaddy floods. The bulk of the inundated area is fertile, and in the north of the Alègyun island very fine crops of chillies are raised. Away from the inundated area the country is of the sandy uplands nature and is not fertile. Toddy trees abound in large numbers on the mainland and are regularly tapped. In the year 1908-09 there were 164 revenue-collecting *thugyis*, and the total revenue collected amounted to Rs. 2,42,613. The largest amount of revenue collected in one year was Rs. 2,47,617 in the year 1906-07.

Yezagyo, the headquarters of the township of that name, is a village on the right bank of the Chindwin about 24 miles due north of Pakôkku town. It is a trade centre and at the census of 1901 contained a population of 3,522. In November 1887 it was gazetted a municipal town, a status for which it was quite unsuited and which was withdrawn in May 1892. At Yezagyo there is a court-house, a civil police station and a district fund rest-house. Yeza

A number of villages in the Yezagyo township situated Ma-

close to one another, partly on the bank of the Chindwin and partly round a large tank. They are grouped in the four *thugyis'* jurisdictions of Ma-u-ngè, Ma-u-aukseik, Ma-u-alè and Ma-u-taung. Originally there was only one *thugyi* who lived at Aukseik. Subsequently this single *thugyi* lived at Ma-u-alè. Shortly before the annexation these villages were split up into four jurisdictions as detailed above, to each of which a *thugyi* was appointed. The northern villages lying along the river bank are petty trade centres. At Ma-u-alè and Ma-u-taung are found almost the only betel-vine gardens of the district. There is a District Fund rest-house at Ma-u-alè.

Neyin. A village on the west of the Alègyun island in the Yezagyo township. In Burmese times it was contained in the Kaing *thwethauk*ship. In 1901 the Neyin *thugyi's* jurisdiction contained 252 houses with a total population of 1,094.

Nweni. A village on the east of the Alègyun island in the Yezagyo township. In Burmese times it was contained in the Nan-u *thwethauk*. In 1901 it consisted of 262 houses and contained a population of 1,277. Like Neyin (above) it is a flourishing agricultural village of no particular importance.

Pakangyi. A village in the Yezagyo township, which in 1901 contained 442 houses and a population of 1,880. It is situated on the 16th mile from Pakôkku town on the Pakôkku-Yezagyo road. In Burmese times Pakangyi was a walled town and the capital of the *wun*ship of that name. According to its chronicle it was founded in the year 667 B.E (A.D. 1315) by order of King Tazi Shin of the Pinya dynasty. The chronicle states that certain learned men discovered from inscriptions that Gotama, incarnate in the shape of a "kauksha" bird, was flying about the site of the three hills, which used to occupy the site of the present town. Further pagodas in the neighbourhood had been built and images made of "thayetkan" wood had been placed in King Narapadi-sithu's pagoda and in the pagoda on the Shinma-daung. So the monks and Brahmins and rulers were summoned and directed to find a name and a lucky day for founding the new city. They made the usual calculations and reported that the boundary posts should be erected and the foundations laid simultaneously on the night of the 7th waxing of the month of Tabaung 667 B.E. There was a village of Kuthanngé near the river (Chindwin), and they suggested that Kuthangyi should be chosen as the basis of the name. Ultimately Pakangyi was adopted. So King Tazi Shin on receiving this report sent his

minister, the Arakanese Yaw-let-mé, with 4,000 soldiers to found the city. They levelled the three hills and founded the city on the site so obtained. It would appear from the Upper Burma Gazetteer that the Pinya dynasty was established at Kyauksè in the year 674 B.E. (A.D. 1322), which does not accord with the date given in the chronicle from which the above quotation is taken. The city was certainly built on an eminence of some nature for the present ground level of the walled portion is 15 or 20 feet higher than that of the surrounding country. It is more reasonable to suppose that the site was obtained by levelling rising ground than by means of piling earth to the required height. The walls of the old town which are built of brick and are about 20 feet thick are still standing in a fair state of repair. They were originally surrounded by a moat, now in many places filled in, which is connected by a wide ditch with the Chindwin river four miles to the east. The walls enclose an irregular hexagon of which the area is 57 acres. In Burmese times the town was mainly contained within the walls. With the fall of the monarchy it declined both in population and importance, and this decline was no doubt augmented by the abandonment of Pakangyi for Yezagyo as the headquarters of an unit of administration, which took place in January 1890. The present village is partly contained within and partly without the walls. The area within the walls now presents a somewhat desolate appearance. Close to the village and outside the walls is the Sithu-shin pagoda, the most venerated of the pagodas of the district. In Burmese times the *thugyi* of Pakangyi was known as a *myo-thugyi* and was one of the 20 *thwethauks* of the *wun*ship of Pakangyi. Within the walls there is now a Public Works Department rest-house, and also a small district fund bazaar.

Myain townsh

A township of the Pakôkku subdivision lying between meridians 94·33 and 95·90 east longtitude and parallels 20·23 and 21·53 north latitude. It is bounded on the north by the Salingyi and Palè townships of the Lower Chindwin district from which it is separated partly by the Yama stream and partly by ridges which jut out from the Tangyidaung range. Its western boundary is formed by this range which divides it from Pauk. On the south it is bounded by the Pakôkku township and on the east it is divided from Yezagyo mainly by the Shinma-daung range. In Burmese times the bulk of the township was included in the *wun*ship of Pakangyi, a few villages in the south-west belonging to the *wun* of Pagan. As a township it was first contained in the Pakangyi subdivision of the old Myingyan district.

In January 1888 it was transferred to the Pakôkku subdivision. In 1891 the Lingadaw township was abolished and part of its area added to Myaing, since which date the Myaing township has practically remained unaltered. It is the largest of the three townships of the Pakôkku subdivision. Its area is 780 square miles of which rather more than one half, or 264,830 acres, are occupied for cultivation. Of its occupied area 30,231 acres have been classed as paddy land. The township is made up mainly of sandy uplands and is infertile. Toddy trees abound in many parts and are regularly tapped. The population at the census of 1901 numbered 71,976. In the year 1908-09 there were 166 revenue-collecting *thugyis*, and the revenue collected amounted to Rs. 1,57,774. The year of largest collection was 1905-06 when a total of Rs. 1,63,152 was collected.

Myaing. The headquarters of the township of that name is a small village situated 27 miles north-west of Pakôkku town. In 1901 it contained 57 houses and a population of 341. There is a Myoôk's court-house, a police-station and a district fund rest-house. In Burmese times Myaing was the headquarters of a *thwethauk* of the *wun*ship of Pakangyi.

Pauk subdivision. A subdivision of the district lying between the Tangyidaung hills and the Yaw river on the east and the Chin Hills on the west. It is contained between meridians 94·00 and 94·48 east longitude and parallels 20·48 and 21·53 north latitude. It originally included all that part of the district situated to the west of the Tangyidaung range. Readjustments of its townships and rearrangements of its boundaries have been numerous. Its present constitution of the three townships of Pauk, Seikpyu and Saw dates from the year 1896. The only change which has taken place since that year is the substitution of the Yaw river for the Tangyidaung hills as part of its eastern boundary.

Pauk township. A township in the subdivision of that name with an area of 1,490 square miles. It is rectangular in shape and is contained between the parallel ranges of the Tangyidaung and Pôndaung hills. It lies between the meridians 94·18 and 94·44 east longitude and the parallels 21·13 and 21·53 north latitude. It is rectangular in shape. It is bounded on the north by the Gangaw township of the district and the Palè township of the Lower Chindwin district, on the east by the Tangyidaung hills which separate it from the Myaing and Pakôkku townships, on the south by the Seikpyu township, and on the west by the

Pôndaung hills which separate it from the townships of Tilin and Saw. On the north the boundary where it separates Pauk from the Lower Chindwin is identical with the district boundary. Further east the Pôndaung hills which here run east and west form the boundary between Pauk and Gangaw. On the west the boundary runs southward down these same hills to the Yaw river. It then follows the river south for some distance, and then leaving the river follows the Sinlè-daung footpath southwards to the Kyakat-Letpan footpath. The south boundary leaves this point and runs eastwards to the Letpan-kin watershed which it follows till it again reaches the Yaw river. It then crosses to the Tangyidaung hills, which form the eastern boundary of the township. The country is extremely hilly and is broken by the troughs of the Yaw and Kyaw rivers and their feeders. The former of the two rivers mentioned comes from the south-west and about two miles north-east of the town of Pauk is joined by the Kyaw, which flows from the north. The united streams then sweep round and flowing parallel to the Tangyidaung hills join the Irrawaddy just above Seikpyu. In Burmese times the present township, which as above described dates from shortly after the annexation, formed part of what was known as the Pauk or Kyakat *myo*. This *myo* included a few villages now in the Seikpyu township and extended across the Pôndaung hills, embracing much of the country now included in the township of Saw and Tilin. The name Kyakat *myo* is said to have been given to it by Shin Gotama himself, who, when spending a lent on the Tangyidaung near the site of the present Swè-daw Yin pagoda, noticed the dense jungle of Kyakat bamboo to the west, and called the country Kyakat, prophesying that it would soon be peopled.

The first settlers according to local tradition were three brothers, refugees from the Pagan kingdom. One took possession of the lowlying tracts and formed four villages which he called Lé-gyi lédwin (Lélan, Lé-o, Lèsaw and Alè). The second took the forest land and built nine villages, which he named after trees, calling them the Thitkyi-ko-bin (Pauk, Yuma, Pyinchaung, Nyaungwun, Kyun-yin, Shala, Letpan, Thayet-kyin and Peinnè). The last received the sterile hilly tracts and founded nine villages, which he called the Kyaukkyi-ko-lôn (Kyauk-ka, Kyauk-masin, Kyauk-lut, Kyauk-tè, Kyauk-tayan, Kyauksit, Kyauk-o and Kyauk-kwet). Many of these villages are still known and inhabited.

The first ruler of the Kyakat *myo* was styled *Sawbwa* and held his court at Kyakat, now diminished to a small village near Chaunggu in the Saw township. His jurisdiction extended eastward as far as the Irrawaddy opposite Pagan. In the time of King Naungdaw-paya, son of Alaung-paya, the Kyakat *sawbwa*, together with those of Tilin and Laungshe rebelled, and the *sawbwa*ship was reduced to a *myothugyi*ship. The country east of the Tangyidaung was at the same time taken from the *myo*. About 1202 B.E. (1840 A.D.), as the eastern part of the *myo* was infested with bad characters, the headquarters were removed east and the present town of Pauk was founded. There had formerly been a large town of over one thousand houses at Pauk, but it was entirely destroyed in 1167 B.E. (1805 A.D.), when the whole country side was laid waste by the dacoit Maung Gauk of Pagyi. In 1840 also a *wun* was appointed to the whole of the Yaw country, embracing the four *myos* of Pauk, Laungshe, Saw and Tilin, together with the seven villages which then went by the name of taik-kyan-knhna-ywa.

All civil, criminal and revenue administration was in the hands of the *wun*, who received a salary of Rs. 1,200 a year. The *myothugyi* also tried petty cases, but none besides the *wun* had power to imprison and even he rarely exercised it. Compensation in money was considered sufficient punishment for even so serious an offence as murder, the delinquent being shut up till the fine was paid. In civil cases there were no regular court fees, but the presiding judge took a commission from the parties. For one year an official called a kôn *wun* was appointed for the trial of all civil suits. He received a fixed salary of Rs. 600 a year, and regular court fees were fixed, which were to be paid into the treasury. The arrangement only lasted for one year as the King found that the salary of this official exceeded the fees collected. The only regular tax levied was *thathameda*, which was first introduced in 1221 B.E. (1859 A.D.), when the demand was Rs. 3 a house. The demand was gradually raised till in 1230 B.E. it reached the rate of Rs. 10 a house. *Thugyis* drew up lists of house in their *ywas*; these lists were not systematically checked. If the amount paid in by any particular *thugyi* appeared to the *wun* to be suspiciously small he sent a clerk to count the houses. If it was discovered that the *thugyi* had appropriated money collected he was fined twice the amount embezzled.

Of the total area of the present township roughly one-

ninth or 100,226 acres, is occupied for cultivation. The bulk of the township is covered with forest growth, which increases in value and density from east to west. Of the occupied area 10,648 acres have been classed as paddy land, which is fertile, while much of it is under irrigation. The irrigated land on the upper reaches of the Yaw river yields two crops of paddy in the year, the outturn from the two crops being as high as 80 baskets to the acre. Land not culturable with paddy, or as it is called *ya* land, predominates here as in most townships of the district. On much of the *ya* land maize can be grown, and the best-maize growing *yas* are exceedingly valuable. The population of the township at the census of 1901 numbered 41,021. The area under cultivation has undoubtedly increased since the annexation, a fact partly due to immigration from the Pakôkku subdivision and in probably a greater degree to the increased facilities for exporting maize wrapper. The better lands which in pre-annexation days were devoted to the raising of food crops are now all under maize, and less fertile land has been brought under cultivation with jowar. Immigration from the east had commenced before the annexation and several villages in the north-east of the township have been founded entirely by immigrants from the neighbouring Myaing township. In the year 1908-09 there were 112 revenue-collecting *thugyis*. The revenue of the township has steadily increased. In 1902-03 it amounted to Rs. 91,305 while in 1908-09 it was Rs. 1,15,784.

Pauk. A village on the Kyaw river situated 45 miles due west of Pakôkku town. It is the headquarters of the subdivision and township of the same name. In Burmese times it was of importance as being the headquarters of the Yaw-le-myo *wun*ship, and was designated a town. The present village is said to have been built in 1202 B.E. (A.D. 1840) on the site of a much older town. The village straggles for half a mile along the main Pakôkku-Gangaw road which at this point runs parallel to the Kyaw. At the east end is a civil police-station and at the west end there is a military police post. There are also a Court-house and a Public Works Department rest-house. The population is mainly Burman, but there are a certain number of natives of India, who are shopkeepers, and appear to have first settled in Pauk during the time of the Chin Hills expedition.

Seikpy[u] townsh[ip]. A township of the Pauk subdivision. It lies between meridians 94·18 and 94·48 east longitude and parallels 20·50 and 21·21 north latitude. On the south its boundary

coincides with that of the district, and separates it from the Salin township of Minbu. On the west its boundary runs from the Salin river northwards along the Dudawdaung range to the Seikpyu-Saw road. From there it follows the Letpan-kin watershed and then runs to the Yaw river, which it follows to its junction with the Kin stream. From this point the north boundary runs first in a south-easterly direction and then due east till it again reaches the Yaw river, which forms the eastern boundary of the township, dividing it from the Pakôkku township In Burmese times the northern villages of the township were included in the Pauk *myo*. Several villages in the Yaw valley were directly under the Pagan *wun*. The south of the township formed part of the Sale *myo*, which was included in the Pakanngè *wun*ship. The villages in the south-west corner in the Mwe valley belonged to the Laungshe *myo*. The township was formed in August 1891. Prior to that its component parts were included in the Pakôkku, Pauk and Laungshe townships of Pakôkku and in the Kyabin township of Minbu. Its area is 782 square miles, of which 83,093 acres, or approximately one-sixth of the township, are occupied for cultivation. Human habitation is confined to the valleys of the Yaw river and the Chit, Mwe and Kin streams and to the small area which borders on the Irrawaddy. The centre and the western portion of the township are uninhabited. Of the occupied area 12,018 acres have been classed as paddy land. The township is exceedingly infertile, and irrigation, though practised, is not very successful, as it depends on streams, which hold water only after heavy rain. Toddy trees abound in most villages, and are tapped. The population in 1901 was 31,100. In the year 1908-09 there were 80 revenue-collecting *thugyis* and the revenue paid was Rs. 71,544. The largest revenue collected in any one year was Rs. 80,945 in 1906-07.

Seikpyu. A village on the right bank of the Irrawaddy situated about 8 miles from the south boundary of the district. In 1901 it contained 356 houses and a population of 1,195. It is the headquarters of the Seikpyu township and possesses a Court-house for the Myoôk, a civil police station and a Public Works Department rest-house. It is a small trade centre for the southern villages of the township, but as such is not of much importance.

Saw township. A township of the Pauk subdivision lying between meridians 94°00 and 94°18 east longitude and parallels 20°48 and 21°37 north latitude. On the south the boun-

dary coincides with the district boundary separating Saw from the Sidôktaya township of Minbu. On the west the district boundary separates Saw from the Pakôkku Hill Tracts. The north boundary of the township is formed by the Yaw-Myittha watershed till the Pônnyadaung range is reached. It then follows this range for about 12 miles northwards and then runs due east crossing the Pindaung stream to the Pôndaung range. The eastern boundary runs south along the Pôndaung to the Yaw river, which it follows to the foot of the Sinlè-daung range. It follows this range southwards for about 12 miles and then branches west to the watershed between the Letpan and Kin streams. It then follows this watershed to the Dudaw-daung range, which in turn it follows till it eventually reaches the Salin river. The country within these boundaries in Burmese times belonged to the Pauk, Saw and Laungshe *myos*. After the annexation it was formed into three townships, Yaw, Laungshe and Saw, which were included in the Pauk subdivision. In 1890 the Laungshe and Yaw townships, the latter having been made up in the preceding year by the amalgamation of the original Yaw and Saw townships, were grouped together in the Yaw subdivision of which the headquarters were located at Yawdwin. In 1898 the Yaw subdivision was abolished and the Yaw and Laungshe townships were amalgamated into one township known as Pasôk, and again placed in the Pauk subdivision. In 1904 the Pasôk township was re-named Saw and its headquarters were transferred to the village of that name. The township has an area of 1,200 square miles or 768,000 acres, of which only 13,667 acres are occupied for cultivation. The township consists almost entirely of hills and forests watered by the Salin and Yaw rivers and the Saw stream, a tributary of the Yaw. Of the occupied area 10,193 acres are paddy land, and irrigation is extensively practised. The population in 1901 was 19,868. In the year 1908-09 there were 98 revenue-collecting *thugyis* and the revenue collected amounted to Rs. 53,563, the highest collected in any one year.

Saw. A village on the left bank of the Saw stream, a tributary of the Yaw river. It is situated 71 miles due west of Seikpyu at the terminus of the Seikpyu-Saw Public Works Department road, and lies at the foot of the hill on which Kanpetlet, the headquarters of the Pakôkku Hill Tracts, is built, and from which it is distant 12 miles. In Burmese times it was the headquarters of the Saw *myo*, one of the Yaw-le-myo, and since 1904 has been the headquarters of

the Saw township. In 1901 it contained 144 houses and a population of 742. At Saw are a Court-house, a civil police-station and a Public Works Department rest-house.

Gangaw subdivision. The western subdivision of the district is contained between meridians 93·59 and 94·27 east longitude and parallels 21·27 and 22·50 north latitude. The area of which it is at present comprised was first known as the North Yaw subdivision. In 1896 the Gangaw subdivision was formed of the two townships Gangaw and Tilin which it still contains.

Gangaw township. A township of the subdivision of that name situated in the north-west of the district. It is in shape an attenuated triangle, of which the base only touches the district. It is mainly contained between the Lower Chindwin on the east and the Chin Hills on the west, while its northern point juts out into the Upper Chindwin district. It lies between meridians 93·59 and 94·27 east longitude and parallels 21·49 and 22·50 north latitude. Its eastern and western boundaries coincide with the boundaries of the district. The south boundary starts from the Pôndaung range on the east and running due west crosses the Kyaw river. It then runs up the Thayetkyin stream and on to the Yaw-Myittha watershed, which it crosses and then follows the watershed between the Setni and Tanthi streams. It then strikes off due west to the Maw river, up the bed of which it runs for few miles, when it again strikes due west to the Chin Hills boundary. The township has an area of 698 square miles, but its habitable portions are confined practically to the valleys of the Kyaw, Maw and Myittha rivers, the bulk of the township being composed mainly of hills covered with dense forest growth. In Burmese times its southern portion beyond the Pônnyadaung hills consisted of a group of seven villages and their dependent hamlets. Each village was ruled over by a *thugyi*, all of whom more or less looked up to the *thugyi* of Minywa as their head. In later Burmese times it was included in the Yaw-le-myo. The Kyaw valley was included in the Tilin *myo*. The north part of the township was also included in the Tilin *myo*, though separated from it by the abovementioned seven villages. When first formed shortly after the annexation it was called the Kunhna-ywa township, a corruption of the words Kuhnit-ywa or seven villages. It was so known till 1905, when its name was changed to Gangaw. At the census of 1901 the population of the township was 24,200. Of its occupied area 10,315 acres are paddy land, and paddy is the main crop worked. There is land in the township which grows very fine crops of maize and this crop is extending.

In the year 1908-09 there were 98 revenue-collecting *thugyis* in the township, and the revenue paid amounted to Rs. 63,011, the largest amount collected in any one year.

Gangaw. A village on the right bank of the Myittha situated 149 miles from Pakôkku town, with which it is connected by a Public Works Department road. At the census of 1901 it contained 242 houses and a population of 1,300. It was used as an advance base by the Southern Column during the Chin Hills Expedition. It is the headquarters of the subdivision and township of the same name. At Gangaw are located Court-houses, a civil police-station, a military police post and a Public Works Department rest-house.

Minywa. A village in the Gangaw township about 15 miles south of Gangaw, and situated on the right bank of the Myittha river. In 1901 it contained 304 houses and a population of 1,658. There is a Public Works Department rest-house at Minywa. In Burmese times Minywa was regarded as the leading village of a kind of confederacy of seven villages which occupied the southern portion of the Gangaw township.

Shônshi. A village in the Gangaw township about one mile south of Gangaw on the left bank of the Myittha river. It is also known as West Gangaw. In 1901 it consisted of 281 houses with a population of 1,172, many of whom were Burmanised Chins.

Tilin township. One of the two townships which constitute the Gangaw subdivision. It is contained between the Pôndaung hills on the east and the Chin Hills on the west, and lies between meridians 93·59 and 94·19 east longitude and parallels 21·27 and 21·54 north latitude. It is bounded on the north by the Gangaw, on the east by the Pauk and on the south by the Saw townships of the district. In Burmese times it was a *myo*, included in the Yaw-le-myo. The limits of the present township are not so extensive as those of the Burmese *myo*. When first formed as a township it was included in the Pauk subdivision. In 1889 it was transferred to a subdivision called North Yaw, and in the following year retransferred to a newly constituted Pauk subdivision. In 1896 it was again transferred to the Gangaw subdivision. Its area is 488 square miles, of which only 5,609 acres are occupied for cultivation. Tilin, in common with the two other western townships of the district, is one mass of hills covered with forests. Of the occupied area 4,479 acres are paddy land. In the year 1901 the population was 12,183. There were 64 revenue-collecting *thugyis* in the township in 1908-09 in which

year the revenue paid was Rs. 36,908, the largest sum collected as revenue in any one year up to date.

Tilin. The village of Tilin is situated on the right bank of the Maw river, and is the headquarters of the township of the same name. It was originally founded in 110 B.E. (A.D. 748). Legend says that in the year 557 B.E. (A.D. 1195) Narapadi-sithu, King of Pagan, visited the country and encamped near the site of the neighbouring village of Tilin-ngè. The Royal Umbrella was planted by the King's sleeping place. In the morning it was found that the umbrella had opened of its own accord to protect the Royal Head from the rays of the rising sun. The King in gratitude built a pagoda and called it "Tidawya," the "place of the Royal Umbrella." The pagoda is still to be seen. He also founded a village which he called "Tilin," and this name was afterwards given to the chief village of the *myo*.

List of Deputy Commissioners who held charge of the Pakôkku District since 1886.

Serial No.	Name of Officer.	Date of receiving charge.	Date of handing over.
1	Captain G. S. Eyre ...	4-8-1886	8-8-1888
2	Mr. R. C. Stevenson ...	8-8-1888	2-1-1889
3	Mr. C. E. Gladstone ...	2-1-1889	30-3-1889
4	Lieutenant H. A. Browning	1-4-1889	27-6-1889
5	Lieutenant N. C. Perkins ...	28-6-1889	28-8-1889
6	Mr. A. S. Fleming ...	28-8-1889	30-6-1891
7	Lieutenant F. H. Eliott ...	1-7-1891	15-11-1891
8	Mr. A. R. Birks ...	16-11-1891	9-6-1892
9	Lieutenant F. H. Eliott ...	9-6-1892	18-12-1892
10	Mr. A. R. Birks ...	18-12-1892	27-3-1893
11	Mr. R. S. Kenny (E.A.C.)...	27-3-1893	17-4-1893
12	Mr. S. H. T. De La Courneuve.	17-4-1893	11-7-1894
13	Mr. G. F. S. Christie ...	11-7-1894	27-9-1894
14	Mr. J. D. Fraser ...	28-9-1894	6-11-1894
15	Captain E. C. Townsend ...	7-11-1894	27-12-1894
16	Captain J. J. Cronin ...	27-12-1894	30-3-1895
17	Captain E. C. Townsend ...	31-3-1895	3-6-1896
18	Mr. A. Ross	4-6-1896	13-9-1896
19	Captain E. C. Townsend ...	14-9-1896	8-12-1896
20	Captain N. C. Perkins ...	9-12-1896	23-12-1896
21	Captain E. C. Townsend ...	23-12-1896	2-5-1897
22	Mr. A. Ross	2-5-1897	8-7-1897
23	Major N. C. Perkins ...	8-7-1897	15-7-1898
24	Mr. R. Grant-Brown ...	15-7-1898	17-4-1900
25	Mr. W. F. Rice ...	18-4-1900	1-6-1900
26	Mr. E. N. Drury ...	2-6-1900	22-7-1900
27	Mr. R. Grant-Brown ..	23-7-1900	20-12-1900
28	Mr. J. D. Fraser ...	20-12-1900	29-5-1901
29	Mr. B. K. S. McDermott ...	30-5-1901	8-12-1904
30	Mr. C. Minns	9-12-1904	16-6-1905
31	Mr. R. G. McKerron ...	16-6-1905	27-12-1906
32	Mr. C. F. Grant ...	27-12-1906	23-10-1908
33	Mr. J. L. McCallum ...	23-10-1908	4-11-1908
34	Lieut.-Col. W. A. W. Strickland.	4-11-1908	5-1-1909
35	Major H. V. M. Langtry ...	5-1-1909	12-12-1910
36	Mr. G. B. H. Fell, C.I.E. ...	13-12-1910	24-3-1911
37	Mr. E. N. Bell ...	25-3-1911	1-2-1912
38	Mr. G. B. H. Fell, C.I.E. ...	2-2-1912	...

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G. B. C. P. O.—No. 4, D. G., 31-5-1913—370—B. P.